UET October Internship Program 2025 (Cycle-2)

Final Report

Organized by: National Centre of Artificial Intelligence (NCAI), UET Lahore
Duration: 1st October – 30th November 2025

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1 Program Overview and Introduction

The October Internship Program 2025 (Cycle-2), organized by the National Centre of Artificial Intelligence (NCAI) at the University of Engineering & Technology (UET) Lahore, continues to stand as one of the university's most ambitious and transformational academic–industry initiatives. Conducted from 1st October to 30th November 2025, this fully sponsored internship—made possible through the generous and sustained support of UET alumni from the 66-UET and 67-UET batches—reflects the remarkable spirit of giving back that exists within the UET community. The alumni's commitment has directly contributed to shaping a future-ready generation of engineers, researchers, and innovators who are equipped with skills aligned with global technological trends.

This internship program has been designed with a clear and purposeful objective: to bridge the persistent gap between classroom knowledge and rapidly evolving industry requirements. In today's technology landscape, theoretical understanding alone is no longer sufficient. Students must be exposed to real-world challenges, cutting-edge tools, and project-based environments to thrive in competitive markets. Recognizing this need, NCAI structured the program as an immersive, multi-domain learning experience built around practical execution and hands-on innovation.

Participants engaged in six high-demand, future-oriented domains:

1. **Generative AI** – large language models, agentic AI, multimodal systems
2. **Artificial Intelligence (AI)** – data pipelines, ML/DL algorithms, computer vision, NLP
3. **Cyber Security** – ethical hacking, intrusion detection, threat modeling, secure system design
4. **Game Design & Development** – Unity, C#, AR/VR simulation, AI-driven gameplay
5. **Graphic Designing & 2D Animation** – brand identity, motion graphics, visual storytelling
6. **Digital Media Marketing & Entrepreneurship** – SEO, social media strategy, content creation, digital branding

A total of more than **60 students were selected through a competitive merit-based process**, ensuring that the program attracted highly motivated individuals capable of absorbing intensive training. Each intern received **20+ hours of structured learning per week**, combining conceptual lectures, supervised laboratory work, weekly review meetings, collaborative problem-solving tasks, and mentor-led domain clinics. This robust and

disciplined structure ensured that students not only learned tools and technologies but also internalized the discipline, teamwork, and professionalism expected in the industry.

A defining hallmark of the internship is its **Proof-of-Concept (PoC) development model**. Rather than merely learning tools, interns spend much of their training building functional prototypes that address real-world challenges across sectors such as healthcare, education, cybersecurity, smart cities, marketing automation, and interactive digital experiences. These PoCs demonstrate the creativity and technical maturity of UET students, who successfully applied machine learning models, agentic workflows, AR/VR environments, design principles, and digital marketing strategies to produce solutions with genuine practical value. The collaborative academic environment—supported by instructors, coordinators, alumni mentors, and NCAI research teams—played a crucial role in nurturing this innovation.

This report provides a detailed account of Cycle-2, including domain-wise learning progression, PoC outcomes, student achievements, and laboratory infrastructure enhancements made possible through alumni support. Notably, this cycle also witnessed substantial upgrades in NCAI's computing environment, including the addition of high-performance GPU workstations, improved networking equipment, and modern multimedia resources. These advancements significantly enhanced the training experience and will continue to benefit future internships, research groups, and academic programs across UET.

As the internship enters its final phase, interns will now focus on completing capstone projects, refining documentation, building their professional portfolios, and preparing for the closing ceremony. Their work will not only serve as a testament to their learning but also as a showcase for potential industry partners, donors, and academic collaborators.

The October Internship Program has now become a **signature example of sustainable alumni–university partnership**. It highlights how UET's global alumni network—when connected with academic leadership—can create a transformative impact on institutional capacity, student development, and national technological growth. With planning already in motion for **Cycle-3 beginning on 1st January 2026**, the program is poised to expand its outreach, diversify its domains, and deepen its engagement with industry and research partners.

Looking ahead, UET remains committed to cultivating future-ready talent capable of contributing meaningfully to Pakistan's digital future. The continued support of alumni, faculty, and partners will be instrumental in scaling this initiative, ensuring that UET remains a national leader in AI-driven education, applied research, and innovation.

2 All Domains Completion Reports

2.1 Generative AI Internship

Instructor: Ms. Ayesha Azam
Assistant Coordinator: Ms. Asma Fatima

2.1.1 Executive Summary:

The Generative AI Internship (Cycle-2, Oct–Nov 2025) successfully trained 07 students in natural language processing fundamentals, transformer architectures, large language models, RAG systems, agentic AI, and fine-tuning techniques. A total of seven PoCs were developed, two of which, Voice Cloning using Diffusion Models and Social Media Content Calendar Agent, are selected for formal PoC documentation and submission to potential funding agencies. This report summarizes the curriculum, training methodology, project outcomes, and future opportunities.

2.1.2 Introduction

The Generative AI Internship, conducted from 1st October to 30th November 2025, has been successfully completed under the National Centre of Artificial Intelligence (NCAI) at UET Lahore. This two-month program provided students with a comprehensive, hands-on learning experience in natural language processing fundamentals, transformer architectures, large language models, prompt engineering, retrieval-augmented generation (RAG) systems, agentic AI frameworks, and advanced fine-tuning methodologies.

Throughout the internship, participants engaged in structured weekly training sessions and practical exercises that enabled them to translate theoretical knowledge into real-world generative AI applications. By the end of the program, each intern team successfully developed and presented a Proof of Concept (PoC) aligned with cutting-edge AI research and industry needs, ranging from voice synthesis using diffusion models to intelligent automation agents for content creation.

The successful execution of this internship reflects the commitment of UET faculty, domain mentors, and the continued support of the 66-UET and 67-UET alumni sponsors, ensuring that students gain industry-relevant skills that prepare them for future opportunities in the rapidly evolving field of generative artificial intelligence.

2.1.3 Overall Objective of the Internship Program

The primary objective of this internship program was to equip students with practical, industry-aligned skills in generative AI through a structured, project-based learning approach. Over the two-months, interns were trained to understand core natural language processing concepts, transformer architectures, large language model operations, and apply modern frameworks such as LangChain, HuggingFace, and fine-tuning techniques to work collaboratively on real-world Proof of Concept (PoC) projects.

In addition to technical skills, the program emphasized teamwork, communication, documentation, and professional presentation abilities. Each team produced a complete PoC document and delivered a final project demonstration, ensuring that participants

gained both technical competence and professional readiness. The program supports UET's mission to connect academic learning with industry expectations and foster innovation through hands-on execution of cutting-edge generative AI solutions.

2.1.4 Generative Artificial Intelligence Internship Outline

2-Month Generative Artificial Intelligence Outline	
	Course Title: 2.1 Generative AI Internship Duration: 2 Months (8 Weeks / 40 Working Days) Hours: 4 hours per day Total Contact Hours: 160 hours Total Trainees: 10 Instructor's Name: Ayesha Azam

No.	Week	Day	Topic Details
1	Week 1	Day 1	Intro to NLP, text structure, real-world applications
	Week 1	Day 2	Tokenization, stop words, stemming, lemmatization
	Week 1	Day 3	POS tagging, Named Entity Recognition (NER)
	Week 1	Day 4	Build complete preprocessing pipeline
	Week 1	Day 5	Apply pipeline to synthetic dataset
2	Week 2	Day 6	RNNs, LSTMs, GRUs – architectures, vanishing gradients, temporal dependencies
	Week 2	Day 7	Transformer architecture – attention, self-attention, positional encoding
	Week 2	Day 8	Implement LSTM for text generation or classification
	Week 2	Day 9	Fine-tune pretrained transformer (e.g., DistilBERT) on classification task
	Week 2	Day 10	Compare RNN vs Transformer models – performance, training dynamics
3	Week 3	Day 11	GPT, T5, BERT – comparison and evolution of LLMs
	Week 3	Day 12	Tokenization schemes and embeddings
	Week 3	Day 13	Prompt engineering techniques
	Week 3	Day 14	Use OpenAI/HuggingFace APIs to build chatbot
	Week 3	Day 15	Share chatbot and write Prompt Engineering deck
4	Week 4	Day 16	Language model scaling & RLHF
	Week 4	Day 17	Ethical concerns: bias, hallucination, safety
	Week 4	Day 18	Compare outputs of 2–3 LLMs
	Week 4	Day 19	Evaluate outputs with BLEU, ROUGE, perplexity
	Week 4	Day 20	Finalize and submit evaluation write-up
5	Week 5	Day 21	Conducting technical literature reviews
	Week 5	Day 22	Summarize key LLM and Gen AI papers

No.	Week	Day	Topic Details
	Week 5	Day 23	Present and discuss selected papers
	Week 5	Day 24	Identify gaps and brainstorm ideas
	Week 5	Day 25	Finalize mini-project topics
6	Week 6	Day 26	Introduction to RAG: architecture & purpose
	Week 6	Day 27	Tools: LangChain, LlamaIndex, Haystack
	Week 6	Day 28	Implement basic RAG pipeline
	Week 6	Day 29	Evaluate and improve the RAG system
	Week 6	Day 30	Submit RAG system demo
7	Week 7	Day 31	Introduction to Agentic AI: autonomy, planning
	Week 7	Day 32	Tooling: LangChain agents, AutoGPT
	Week 7	Day 33	Agent memory and planning
	Week 7	Day 34	Use agents for project-specific workflows
	Week 7	Day 35	Share agent + document experience
8	Week 8	Day 36	Introduction to fine-tuning: full, adapter-based, PEFT methods
	Week 8	Day 37	LoRA & QLoRA: parameter-efficient fine-tuning concepts
	Week 8	Day 38	Implement LoRA/QLoRA fine-tuning on small LLM
	Week 8	Day 39	Evaluate performance: memory usage, speed, output quality
	Week 8	Day 40	Document your fine-tuning workflow for reproducibility

2.1.5 PoC Projects Developed by Students During the Internship

The following Proof of Concept (PoC) projects were developed by the students during the two-month Generative AI Internship. The first two PoC projects, Voice Cloning using Diffusion Models and Social Media Content Calendar Agent, will also have complete PoC documents prepared for submission to various agencies and organizations for potential sponsorship and development funding.

A total of seven PoCs were developed during the internship, covering large language model applications, retrieval-augmented generation systems, agentic AI workflows, multimodal AI, and domain-specific fine-tuning implementations.

2.1.5.1 Project 1: Voice Cloning using Diffusion Models

Objective:
To build a text-to-speech system capable of cloning a person's voice from limited audio samples. Using diffusion models, the system generates speech that retains the speaker's tone, accent, and emotional expression for natural and personalized audio synthesis.

Key Features:

- Voice cloning from limited audio samples
- Text-to-speech synthesis engine

Tools & Technologies: Python, Diffusion Models, Audio Processing Libraries, Deep Learning Frameworks

Expected Outcome:
A personalized voice synthesis system that can generate natural-sounding speech with controlled emotion and tone from minimal training data.

2.1.5.2 Project 2: Social Media Content Calendar Agent

Objective:
To develop an AI agent that plans and generates a complete month of social media content with optimal posting schedules. The system analyzes brand voice, target audience, trending topics, and historical performance to create platform-specific posts.

Key Features:

- 30-day content calendar planner
- Platform-specific post generator (Twitter, Instagram, LinkedIn, Facebook)
- Trending topic integration
- Optimal posting schedule recommender

Tools & Technologies: Python, LangChain/AutoGPT, LLM APIs, Social Media Analytics Tools

Expected Outcome:
An intelligent automation agent that streamlines social media management by generating contextually relevant content and optimizing posting schedules for maximum engagement.

2.1.5.3 Project 3: AI Assistant for Code Refactoring and Bug Explanation

Objective:
To create a coding assistant that analyzes source code to identify bugs, code smells, and improvement opportunities. The system detects issues using static analysis and AI models, explains problems in natural language, and suggests refactored solutions.

Key Features:

- Code quality analyzer (bugs, code smells, vulnerabilities)
- Natural language bug explainer
- Automated refactoring suggestions
- Side-by-side code comparison (before/after)

Tools & Technologies: Python, Static Analysis Tools, LLMs, AST Parsing Libraries

Expected Outcome:
A developer-focused AI tool that automates code review processes and helps improve code quality through intelligent analysis and natural language explanations.

2.1.5.4 Project 4: Intelligent Threat Detection System

Objective:
To design an intelligent security system that detects phishing attacks, fake collaboration scams, and suspicious login behavior in real-time. The system analyzes message patterns, evaluates link safety, and monitors user activity to identify threats, all running locally without external APIs or cloud dependencies.

Key Features:

- Phishing message detector
- Fake collaboration analyzer
- Link safety checker
- Anomaly-based login monitor

Tools & Technologies: Python, Machine Learning Models, Pattern Recognition, Local LLM Deployment

Expected Outcome:
A privacy-focused cybersecurity tool that identifies and alerts users to potential threats through real-time analysis without relying on external services.

2.1.5.5 Project 5: E-Learning Content Generator & Tutor

Objective:
To develop an intelligent educational platform that generates comprehensive learning materials and provides personalized tutoring through conversational AI. The system creates

lessons, practice problems with solutions, and designs customized learning paths based on student performance.

Key Features:

- Comprehensive lesson generator
- Practice problem creator with solutions
- Personalized learning path designer/roadmap
- Educational content RAG (curriculum alignment)

Tools & Technologies: Python, LLMs, RAG Systems, Educational APIs, Adaptive Learning Algorithms

Expected Outcome:
An AI-powered educational assistant that adapts to individual learning needs and generates tailored content to improve student outcomes.

2.1.5.6 Project 6: AI-Powered Document Assistant

Objective:
To create a document intelligence system that allows users to upload various file types, extract content including scanned text via OCR, and interact with documents through natural language questions. The system uses RAG to provide accurate answers grounded in document content.

Key Features:

- Multi-format document uploader (PDF, DOCX, images, scans)
- OCR for scanned documents
- Natural language Q&A system
- RAG-based answer grounding
- Source citation and reference linking
- Document summarization engine

Tools & Technologies: Python, RAG Architecture, LangChain/LlamaIndex, OCR Libraries, Vector Databases

Expected Outcome:
An intelligent document processing system that enables users to extract insights and interact conversationally with their documents while maintaining source traceability.

2.1.5.7 Project 7: Multi-Agent System for Automated Literature Review

Objective:
To build an autonomous research assistant using coordinated AI agents that discover, read, summarize, and compare academic papers to generate comprehensive literature reviews. Multiple specialized agents handle different tasks, including searching databases, extracting key information, identifying trends, and synthesizing findings.

Key Features:

- Academic database search agent
- Paper summarization agent
- Methodology comparison agent
- Research trend analyzer
- Citation Network Mapper
- Literature Synthesis Engine
- Publication-ready Review Generator with Citations

Tools & Technologies: Python, Multi-Agent Frameworks (LangChain/AutoGPT), Academic APIs, Vector Databases, Citation Management

Expected Outcome:
An automated research tool that significantly reduces the time required for literature reviews while maintaining academic rigor and generating publication-ready review sections with proper citations.

2.1.6 Project Summary

S. No	Project Title	Category	Description
1	**Voice Cloning using Diffusion Models**	Audio AI / Diffusion Models	A text-to-speech voice cloning engine capable of reproducing a speaker's tone, emotion, and accent from limited audio samples.
2	**Social Media Content Calendar Agent**	Agentic AI / Automation	An autonomous agent that generates a complete 30-day content plan, platform-

S. No	Project Title	Category	Description
			specific posts, and optimal posting schedules.
3	**AI Assistant for Code Refactoring & Bug Explanation**	NLP + Software Engineering	A developer support tool that detects code issues, explains bugs in natural language, and suggests improved refactored code.
4	**Intelligent Threat Detection System**	Cybersecurity + Local LLMs	A local, privacy-focused system that detects phishing, fake collaboration attempts, and login anomalies using pattern recognition and AI.
5	**E-Learning Content Generator & Tutor**	EdTech / RAG	A smart educational assistant that generates lessons, exercises, and personalized learning paths tailored to student performance.
6	**AI-Powered Document Assistant**	RAG / OCR / NLP	A multi-format document intelligence system enabling users to upload PDFs, images, or scans and query them through natural language.
7	**Multi-Agent System for Automated Literature Review**	Multi-Agent AI / Research Automation	A coordinated agent system that searches academic papers, summarizes findings, analyzes methodologies, and produces structured literature reviews.

2.1.7 Conclusion

The successful completion of the Generative AI Internship (1st October – 30th November 2025) marks a significant step in preparing students for emerging opportunities in the rapidly evolving artificial intelligence industry. Through eight weeks of intensive training and practical implementation, interns demonstrated creativity, problem-solving, and technical proficiency by developing fully functional PoCs across voice synthesis, intelligent agents, RAG systems, multi-agent architectures, and domain-specific AI applications.

The dedication of the students, mentorship of instructors, and generous support from the 66-UET and 67-UET alumni sponsors played a crucial role in making this cycle a success. The outcomes of this internship will contribute to future collaborations, industry partnerships, and potential funding opportunities for scaling these PoCs into full-fledged products.

This successful cycle reflects UET's commitment to nurturing future-ready talent and strengthening its position as a leading hub for innovation in artificial intelligence and generative technologies.

The next internship cycle (Cycle-3) will start from 1st January 2026, and we look forward to continued sponsor support for further expanding this impactful program.

2.2 Artificial Intelligence Internship

Instructor: Mr. Muhammad Abdullah
Assistant Coordinator: Ms. Laiba Abbas

2.2.1 Executive Summary:

The 2-month (160-hour) AI Internship Program conducted at the NCAI Lab provided trainees with a structured, hands-on learning experience in Python programming, data preprocessing, machine learning, deep learning, computer vision, and natural language processing. Over the course of 8 weeks and 40 working days, interns progressed from foundational coding skills to developing end-to-end AI projects and Proof-of-Concept (POC) systems. A total of 10 trainees successfully completed the program under the guidance of Instructor Laiba Abbas, demonstrating strong technical growth, project-based learning, and problem-solving capabilities.

2.2.2 Introduction

The AI Internship Program was designed to bridge theoretical knowledge and industry-level application by engaging trainees in practical, daily hands-on tasks. Conducted at the National Center of Artificial Intelligence (NCAI) Lab, the internship followed a structured weekly framework that progressively introduced trainees to core AI concepts, essential Python programming, and modern machine learning methods. Each week built upon previous learning, allowing interns to gain confidence and mastery in essential tools and techniques.

Throughout the 160 contact hours, trainees engaged in guided exercises, graded mini-projects, real-world case studies, and collaborative brainstorming sessions. The internship emphasized not only model development but also critical skills such as evaluation techniques, deployment basics, documentation, and teamwork. By the end of eight weeks, the trainees were equipped with the knowledge and practical experience required to implement AI solutions and design full-scale projects across ML, DL, CV, and NLP domains.

The program concluded with capstone projects and Proof-of-Concept (POC) development, giving students firsthand exposure to real-world problem solving. Their work demonstrated a strong understanding of end-to-end AI pipelines, including data preparation, model optimization, visualization, and presentation.

2.2.3 Overall Objective of the Internship Program

The overarching objective of the internship program across all domains is to enable participants to gain hands-on, project-based experience that bridges the gap between academic learning and industry application.

Through these Proof of Concept (PoC) projects, students not only strengthen their technical and creative abilities but also learn teamwork, communication, project documentation, and presentation skills — essential competencies for professional success.

Each internship culminates in a demonstrable prototype or working concept, which will be presented to various organizations and potential sponsors to seek PoC funding or full-scale development funding.

In addition, each domain team is required to prepare a complete PoC document and a PowerPoint presentation highlighting the concept, objectives, outcomes, and implementation roadmap — to be formally presented to potential sponsors and partner organizations.

This approach ensures that student innovation contributes directly to UET's ongoing mission of linking education, research, and industry for national development.

2.2.4 Artificial Intelligence Internship Outline

2-Month Artificial Intelligence Outline	
	Course Title: Artificial Intelligence Duration: 2 Months (8 Weeks / 40 Working Days) Hours: 4 hours per day Total Contact Hours: 160 hours Total Trainees: 11 Instructor's Name: Laiba Abbas

No.	Week	Day	Topic
1	**Week 1**	Day 1	Intro to Python, Syntax, Variables
	Week 1	Day 2	Data Types, Lists, Tuples, Dictionaries
	Week 1	Day 3	Loops, Conditionals
	Week 1	Day 4	Functions, File Handling
	Week 1	Day 5	OOP Basics, NumPy, Pandas

2	**Week 2**	Day 6		Data Preprocessing, Handling Nulls
	Week 2	Day 7		Encoding, Scaling, Train-Test Split
	Week 2	Day 8		Linear & Logistic Regression
	Week 2	Day 9		Decision Trees, KNN
	Week 2	Day 10		Model Evaluation Techniques
3	**Week 3**	Day 11		Clustering: KMeans, DBSCAN
	Week 3	Day 12		Dimensionality Reduction: PCA
	Week 3	Day 13		SVM & Naive Bayes
	Week 3	Day 14		Cross-validation & GridSearchCV
	Week 3	Day 15		ML Mini Project Implementation
4	**Week 4**	Day 16		Neural Networks: Perceptron, Activation Functions
	Week 4	Day 17		Loss Functions, Optimizers
	Week 4	Day 18		CNN Architecture
	Week 4	Day 19		Regularization: Dropout, L2
	Week 4	Day 20		DL Mini Project: MNIST Classification

5	**Week 5**	Day 21		Intro to OpenCV & Image Basics
	Week 5	Day 22		Image Preprocessing & Transformations
	Week 5	Day 23		Pretrained Models: VGG, ResNet
	Week 5	Day 24		Transfer Learning Concepts
	Week 5	Day 25		CV Mini Project: Mask Detection
6	**Week 6**	Day 26		Text Cleaning & Preprocessing
	Week 6	Day 27		TF-IDF & Bag of Words
	Week 6	Day 28		Word2Vec, GloVe Embeddings
	Week 6	Day 29		Transformers & HuggingFace
	Week 6	Day 30		NLP Mini Project: Spam Detection
7	**Week 7**	Day 31		Capstone Project Setup & Planning
	Week 7	Day 32		Team Discussion & Dataset Preparation
	Week 7	Day 33		Model Development: CV Project
	Week 7	Day 34		Model Development: NLP Project

	Week 7	Day 35		Model Testing & Iteration
8	**Week 8**	Day 36		Project Finalization
	Week 8	Day 37		Documentation & Report Writing
	Week 8	Day 38		Presentation Design
	Week 8	Day 39		Team Presentation Rehearsal
	Week 8	Day 40		Final Project Presentations

2.2.5 PoC Projects Developed by Students During the Internship

2.2.5.1 AI-Powered Soccer Referee Assistant

Objective:

To develop an AI-powered assistant that analyzes soccer gameplay from a single-camera video feed and supports referees by detecting key events such as offsides, fouls, and goal-line activities in near real time. The solution aims to offer an affordable, lightweight, and accessible alternative to complex VAR systems for lower-tier leagues and training environments.

Problem:

Traditional VAR systems require expensive infrastructure, multi-camera setups, and human reviewers, making them inaccessible for most local and semi-professional leagues. The lack of low-cost referee-support tools often results in inconsistent decisions, missed fouls, and disputed goals. With recent advancements in computer vision, lightweight detection, and geometric reasoning, there is a clear opportunity to build a compact, automated referee assistant that improves accuracy without high operational costs.

Key Features:

- Real-time player and ball detection using lightweight object detection models.
- Multi-object tracking to maintain consistent player IDs during motion and occlusion.

- Offside detection using homography based field geometry estimation.
- Foul suspicion alerts using pose estimation and collision pattern recognition.
- Visual overlays and event markers for referee decision support in a single-camera feed.

Tools & Technologies:
Python, PyTorch, OpenCV, YOLOv8, ByteTrack, RTMPose, NumPy, CVAT, LabelStudio, Roboflow

Expected Outcome:
A functional prototype capable of identifying critical soccer events such as offsides, fouls, and goal-line decisions from a single video stream with near-real-time processing. The PoC will demonstrate the feasibility of deploying a lightweight AI-refereeing assistant on affordable hardware, validating the foundation for a scalable and modular referee support system.

2.2.5.2 AI Skin Scan Disease Detection using VLM and Visual Reasoning

Objective:

To develop an AI-powered diagnostic model that can detect and classify skin diseases (such as eczema, acne, psoriasis, or melanoma) from uploaded or captured skin images using Convolutional Neural Networks (CNNs).

Key Features:

- Image preprocessing and enhancement (resizing, normalization, augmentation).
- CNN model implementation.
- Disease prediction with probability/confidence score.
- Grad-CAM visualization to explain AI predictions (explainable AI).
- Optional health advice or dermatologist recommendation system.

Tools & Technologies:

TensorFlow / Keras – CNN implementation, Python, NumPy, OpenCV, Matplotlib – data preprocessing & visualization, Streamlit or Flask – web UI for image upload and disease detection

Expected Outcome:

A functional AI model capable of detecting different skin diseases from images with confidence scores and explainable results, demonstrating the application of Computer Vision in healthcare.

2.2.5.3 SmartParking – Detect Parking Slot Availability

Objective:

The objective of Smart-Parking is to develop a computer vision system that predicts and monitors parking slot availability in real-time using video feeds from CCTV. The goal is to improve parking efficiency and reduce traffic congestion in urban areas.

Key Features:

- Real-time parking slot detection using video frames.
- Automatic identification of occupied and empty parking spots.
- Integration with a web dashboard or mobile app for live monitoring. Alerts and notifications for drivers about free parking spaces.

Tools & Technologies:

Python, OpenCV, TensorFlow/PyTorch for image processing and deep learning, YOLOv8 for object detection, Streamlit for visualization and dashboard.

Dataset: PKLot Dataset, CNRPark Dataset.

Expected Outcome:
A functional prototype capable of detecting parking slot occupancy from video input with higher accuracy.

2.2.5.4 TextDoctor — Multi-Agent Grammar and Style Enhancer

Objective

To build a multi-agent AI system that enhances raw or informal text into clear, professional, and well-structured writing by improving grammar, tone, clarity, and consistency while preserving the original meaning.

Key Features

- Multi-agent workflow (Grammar, Tone, Rewriting, Quality, Consistency Agents)
- Tone transformation (formal, professional, simplified, technical, creative)
- Meaning preservation with controlled rewriting

- Side-by-side comparison of original vs refined text
- Readability and quality scoring

Tools & Technologies

Python, OpenAI/HuggingFace LLMs, LangChain/AutoGen, FastAPI/Streamlit, Pydantic

Expected Outcome

A functional agentic text-enhancement system capable of producing polished, coherent, and professional-quality text with transparent multi-agent collaboration.

2.2.5.5 SmartVision AI: Intelligent Multi-Invoice Data Extraction System

Objection:

To build an intelligent system that automatically reads invoice images/PDFs, extracts key fields (invoice number, date, amount, vendor), and processes multiple invoices quickly through an interactive dashboard.

Key Features:

- Multi-invoice upload with batch processing and file validation.
- Drag-and-drop UI with animated scanning and clean results dashboard.
- Extraction display with confidence scores and export options (CSV/JSON).
- Modular backend API ready for integration with advanced OCR/AI models.

Tools & Technologies

Next.js, React, Tailwind CSS, Framer Motion, Python, FastAPI, Pydantic, SQLAlchemy, Node.js, npm, pip, virtualenv, Docker.

Expected Outcome:

A working prototype that automates invoice data extraction, reduces manual entry, and provides structured, exportable results with scalable architecture for future AI/OCR upgrades.

2.2.5.6 AI Resume Screening and Automated Interview Evaluation System

Objective

Build an AI-assisted recruitment system where candidates upload resumes on the Home Page, and the Admin Panel handles resume extraction, JD matching, email sending, and AI-based interviews using automated multi-agent workflows.

Key Features

- Resume upload with automatic extraction and preprocessing
- Job Description matching using SentenceTransformer embeddings
- Admin Panel for viewing resumes, scores, statuses, and sending emails
- AI Interview system generating structured evaluation reports Multi-agent workflow (Extraction, Matching, Email, Interview Agents) enabling a fully automated hiring pipeline

Tools & Technologies

Python, CrewAI, SentenceTransformers, Groq/OpenAI/Llama Models, Streamlit, PyMuPDF, JSON DB, smtplib.

Expected Outcome

A fully automated AI-powered recruitment system capable of matching resumes to job descriptions, conducting AI interviews, and delivering evaluation reports—significantly reducing HR workload and improving hiring accuracy.

2.2.5.7 Contract Shield – AI System to Detect Unfair Clauses using Prompt Engineering

Objective:
To build a smart system that automatically reads invoice images/PDFs, extracts key financial fields with high accuracy, and enables users to process multiple invoices quickly through an interactive dashboard.

Key Features:

- Batch upload with drag-and-drop interface.
- Automatic extraction of invoice number, date, vendor, and total amount.
- Confidence-score display with clean results dashboard.
- Export of structured data in CSV/JSON formats.

Tools & Technologies:
Next.js, React, Tailwind CSS, Framer Motion, Python, FastAPI, SQLAlchemy, PyMuPDF, pdfminer, Tesseract OCR, spaCy, NLTK, HuggingFace, LLMs (LLaMA, Falcon)

Expected Outcome:
A functional prototype that automates invoice data extraction, minimizes manual effort, and delivers structured, exportable results for seamless business processing.

2.2.5.8 Learning Path Ai using LLM

Objective:

To build an AI system that creates personalized learning paths for students based on their IQ, age, and learning speed to help them learn better and faster.

Key Features:

- Analyzes student performance and learning patterns using AI and LLMs
- Recommends personalized study materials based on IQ, age, and learning pace
- Updates learning paths dynamically according to student feedback and progres
- Generates IQ- and age-appropriate questions for practice and assessment
- Provides instant feedback to guide students
- Displays progress and performance through a simple, interactive dashboard

Tools & Technologies: Python, PyTorch/TensorFlow, Hugging Face Transformers, GPT-4/LLaMA, Scikit-learn, NLTK/SpaCy, Pandas/NumPy, Matplotlib/Seaborn

Expected Outcome:
Students will get personalized learning, better understanding, instant feedback, progress tracking

2.2.6 Projects Summary

S. No	Project Title	Category	POC Document	Status
1	AI Soccer Referee Assistant	DL& CV	Yes	Completed
2	AI Skin Disease Detection	DL & CV &VLM	Yes	Completed
3	SmartParking–Slot Detection	CV	Yes	Completed
4	TextDoctor – Multi-Agent Text Enhancer	NLP / Agentic AI	Yes	Completed
5	SmartExpense AI – Invoice Analyzer	CV + NLP	Yes	Completed
6	AI Resume Matcher & Interview System	NLP / Agentic AI	Yes	Completed
7	ContractShield – Clause Detection	NLP / LegalTech	Yes	Completed

2.2.7 Conclusion

The successful completion of the Artificial Intelligence Internship (1st October – 30th November 2025) marks a significant achievement in equipping students with the knowledge and practical skills required to develop real-world AI solutions. Over the course of eight intensive weeks, trainees progressed from foundational Python programming to advanced topics in machine learning, deep learning, computer vision, and natural language processing—ultimately applying these skills toward the development of fully functional Proof-of-Concept (PoC) projects.

The internship's structured, hands-on approach enabled students to build confidence in designing end-to-end AI pipelines, performing data preprocessing, training and evaluating models, and interpreting results. The PoCs developed by the interns demonstrate strong technical maturity and cover diverse problem domains, including sports analytics, healthcare imaging, smart city automation, text intelligence, financial automation, and

recruitment technology. Every project reflects the students' ability to integrate multiple AI components into coherent, practical solutions.

This internship was made possible through the dedicated efforts of the instructors, assistant coordinators, and mentors, whose guidance ensured that each student received continuous support and domain-relevant insights. The generous sponsorship from UET alumni—particularly from the 66-UET and 67-UET batches—further strengthened the program by providing the modern hardware resources required for high-performance AI experimentation.

The achievements of this cycle highlight UET's growing commitment to nurturing industry-ready AI talent and fostering innovation-driven learning environments. The knowledge, experience, and confidence gained by the interns will continue to benefit them in their academic and professional journeys. As UET prepares for the next internship cycle beginning on 1st January 2026, the outcomes of this program will serve as a foundation for even more impactful projects, collaborations, and student success stories in the years ahead.

2.3 Cyber Security Internship

Instructor: Dr. Muhammad Waseem
Assistant Coordinator: Ms. Laiba Saleem

2.3.1 Executive Summary:

The Cyber Security Internship (Cycle-2, Oct–Nov 2025) effectively equipped students with essential practical skills in cybersecurity research, AI-based security solution development, technical blog writing, and hands-on implementation of machine-learning–driven threat detection techniques.

Throughout the internship, students developed five Proofs of Concept (PoCs), demonstrating practical applications of cybersecurity and artificial intelligence. Among these, two projects **PhishGuard: End-to-End Email Phishing Detection System** and **Fake Domain & URL Detection using Text + WHOIS + DNS Data** were selected for formal documentation and potential submission to funding agencies.

In addition to project development, students gained experience in structured research methodology, cybersecurity threat modeling, data analysis, and secure system design. This report outlines the training structure, learning outcomes, and the technical PoCs developed by the interns.

2.3.2 Introduction

The Cyber Security Internship, conducted from 1st October to 30th November 2025, has been successfully completed under the National Centre of Artificial Intelligence (NCAI) at UET Lahore. This two-month program equipped students with practical, research-oriented experience in cybersecurity, focusing on AI-driven threat detection, network and log analysis, and the development of project-based security solutions.

Throughout the internship, students actively participated in structured weekly training sessions, technical research activities, blog writing, and hands-on implementation tasks. These engagements enabled participants to translate theoretical cybersecurity concepts into functional Proofs of Concept (PoCs). By the end of the program, interns had successfully developed and presented PoCs aligned with modern cybersecurity challenges, including multimodal intrusion detection, phishing analysis, malware behavior modeling, ransomware monitoring, and AI-assisted threat prediction.

The program concluded with the development and presentation of multiple PoCs, giving students firsthand exposure to real-world cybersecurity problem solving. Their work demonstrated a strong understanding of end-to-end security pipelines, including data processing, model training, evaluation, visualization, and documentation. The internship provided trainees with the technical depth and practical experience required to pursue future opportunities in cyber defense and AI-based security systems.

2.3.3 Overall Objective of the Internship Program

The primary objective of this internship program was to equip students with practical, industry-aligned cybersecurity skills through a structured, research-driven, and project-

focused learning framework. Over the two-month duration, interns were trained in fundamental and advanced areas of cyber defense, including AI-driven threat detection, network security, log analysis, and multimodal data fusion. Participants also gained hands-on experience in developing real-world Proof of Concept (PoC) cybersecurity solutions.

In addition to technical training, the program emphasized analytical thinking, research writing, teamwork, documentation, and professional communication. Each team produced a complete PoC document, authored technical blog posts, and delivered a final project demonstration—ensuring that students achieved both technical competency and professional readiness. The internship supports UET's mission of aligning academic learning with modern industry needs and fostering innovation through practical cybersecurity problem-solving and AI-enabled solution development.

During the Cyber Security module, interns completed foundational training in ethical hacking, network reconnaissance, and vulnerability assessment using tools such as Nmap, Wireshark, and Metasploit. Hands-on labs reinforced key concepts through password attack simulations, social engineering exercises, and introductory malware analysis in controlled environments. Interns are currently engaged in a collaborative "Defend the Network" challenge, where pairs simulate penetration testing and implement defensive countermeasures. The upcoming sessions will further extend learning through wireless security and incident response laboratories, offering deeper exposure to real-world defensive practices.

2.3.4 Cyber Security Internship Outline

2-Month Cyber Security Outline	
	Course Title: Cyber Security Duration: 2 Months (8 Weeks / 40 Working Days) Hours: 4 hours per day Total Contact Hours: 160 hours Total Trainees: 10 Instructor's Name: Laiba Saleem

No.	Week	Day	Topic
1	**Week 1**	Day 1	Intro to Python, Syntax, Variables
	Week 1	Day 2	Data Types, Lists, Tuples, Dictionaries
	Week 1	Day 3	Loops, Conditionals
	Week 1	Day 4	Functions, **File Handling**
	Week 1	Day 5	OOP Basics, NumPy, Pandas

2	**Week 2**	Day 6	Data Preprocessing, Handling Nulls
	Week 2	Day 7	Encoding, Scaling, Train-Test Split
	Week 2	Day 8	Linear & Logistic Regression
	Week 2	Day 9	Decision Trees, KNN
	Week 2	Day 10	Model Evaluation Techniques
3	**Week 3**	Day 11	Clustering: KMeans, DBSCAN
	Week 3	Day 12	Dimensionality Reduction: PCA
	Week 3	Day 13	SVM & Naive Bayes
	Week 3	Day 14	Cross-validation & GridSearchCV
	Week 3	Day 15	ML Mini Project Implementation
4	**Week 4**	Day 16	Neural Networks: Perceptron, Activation Functions
	Week 4	Day 17	Loss Functions**, Optimizers**
	Week 4	Day 18	CNN Architecture
	Week 4	Day 19	Regularization: Dropout, L2
	Week 4	Day 20	DL Mini Project: MNIST Classification
5	**Week 5**	Day 21	Intro to OpenCV & Image Basics
	Week 5	Day 22	Image Preprocessing & Transformations
	Week 5	Day 23	Pretrained Models: VGG, ResNet
	Week 5	Day 24	Transfer Learning **Concepts**
	Week 5	Day 25	CV Mini Project: Mask Detection
6	**Week 6**	Day 26	Text Cleaning & Preprocessing
	Week 6	Day 27	TF-IDF & Bag of Words
	Week 6	Day 28	Word2Vec, GloVe Embeddings
	Week 6	Day 29	Transformers & HuggingFace
	Week 6	Day 30	NLP Mini Project: Spam Detection
7	**Week 7**	Day 31	Capstone Project Setup & Planning
	Week 7	Day 32	Team Discussion & Dataset Preparation
	Week 7	Day 33	Model Development: CV Project
	Week 7	Day 34	Model Development: NLP Project
	Week 7	Day 35	Model Testing & Iteration
8	**Week 8**	Day 36	Project Finalization
	Week 8	Day 37	Documentation & Report Writing
	Week 8	Day 38	Presentation Design
	Week 8	Day 39	Team Presentation Rehearsal
	Week 8	Day 40	Final Project Presentations

2.3.5 PoC Projects Developed by Students During the Internship

2.3.5.1 Cyber Security Internship: Fake Domain & URL Detection

Objective:
The primary objective is to develop an intelligent, multi-modal machine learning solution that accurately identifies malicious, phishing, and AI-generated domains by analyzing textual patterns alongside metadata features. The system aims to provide robust protection against evolving cyber threats while maintaining high detection accuracy and low false-positive rates.

Key Features:

- Implements a dual-pipeline architecture to process domain name text using BERT for semantic analysis and structured features from WHOIS and DNS data for metadata analysis.
- Combines the BERT pipeline (for text embeddings/semantic patterns) with the XGBoost pipeline (for structured data/metadata predictions).
- Capable of classifying domains into categories such as legitimate, phishing, DGA-generated, or suspicious
- Outputs from both the BERT and XGBoost pipelines are combined using an ensemble fusion strategy for the final classification.
- Built to process domain queries efficiently for potential deployment in real-time security applications (e.g., browser extensions, email filters).
- Specifically designed to identify domains created by automated algorithms or Domain Generation Algorithms (DGAs).

Tools & Technologies:
Python 3.8+, PyTorch, TensorFlow, BERT, HuggingFace Transformers, XGBoost, scikit-learn, pandas, NumPy, python-whois, dnspython, SecurityTrails API, WHOIS XML API, Docker, Flask, FastAPI, AWS, Google Cloud, Azure.

Expected Outcome:

The system is expected to deliver accurate detection of AI-generated or malicious domains (target accuracy >95%) while maintaining a low false positive rate. This results in a scalable, production-ready solution that provides comprehensive threat intelligence.

2.3.5.2 Cyber Threat prediction and Social media

Objective:
The main objective of this project is to develop an intelligent system that predicts emerging cyber threats using social media and OSINT data sources. **Specifically, the project aims to** collect and preprocess data from platforms such as Twitter, Reddit, and dark-web OSINT sources. Apply NLP and BERT-based models to extract threat-related information and meaningful insights. Use topic modeling and time-series analysis to detect trends and

forecast potential cyber events. Provide early-warning alerts and visual analytics to support proactive cybersecurity decisions.

Key Features:

- Real-time monitoring of cybersecurity posts, hashtags, and threat discussions.
- BERT-powered classification to detect malware, phishing, and exploit-related content.
- Topic modeling (BERTopic/LDA) to identify emerging cyber trends and threat clusters.
- Time-series forecasting (Prophet/ARIMA) to predict potential cyber events.
- Interactive dashboard for visualizing threat trends, spikes, and geo-based insights.
- Automated alert mechanism for detecting abnormal or high-risk online activity.

Tools & Technologies:

Python, pandas, NumPy, NLTK, spaCy, BERT, RoBERTa, Hugging Face Transformers, BERTopic, LDA, Prophet, ARIMA, Tweepy, Snscrape, PRAW, SpiderFoot, Maltego, Plotly Dash, Streamlit, MongoDB, Elasticsearch.

Expected Outcome:

The project is expected to deliver a functional predictive system capable of identifying early cyber-threat indicators from social media and OSINT data. It will provide trend forecasts and early-warning alerts to support proactive cybersecurity decisions. The outcome includes a dashboard that visualizes real-time threat insights for analysts.

2.3.5.3 Explainable AI for Intrusion Detection

Objective:

The primary objective of this project is to develop an Explainable AI–based Intrusion Detection System that accurately identifies various cyberattacks while providing transparent, human-interpretable explanations. The system aims to combine high-performance machine learning models with explainability techniques to support analysts in understanding why specific alerts are generated.

Key Features:

- Uses XGBoost and attention-based models to detect attacks such as DoS, Probe, R2L, and U2R with strong classification performance.
- Integrates SHAP to show how each feature contributes to individual predictions and overall model behavior.

- Highlights important traffic patterns within network flows using attention heatmaps for deeper interpretability.
- Trained and evaluated on standard IDS datasets such as NSL-KDD and CICIDS2017 to ensure reliability and reproducibility.
- Provides visualizations of detection results, SHAP values, attention maps, and attack summaries for analysts.
- Combines tree-based interpretability with neural attention insights for a more comprehensive explanation framework.

Tools & Technologies:

Python, XGBoost, scikit-learn, PyTorch, SHAP, attention mechanisms, pandas, NumPy, imbalanced-learn, Matplotlib, Seaborn, Plotly, Streamlit, Flask.

Dataset : NSL-KDD, CICIDS2017

Expected Outcome:
The system is expected to deliver a highly accurate and transparent intrusion detection solution capable of identifying multiple attack types with strong precision and recall. It will provide clear, interpretable explanations for each detection using SHAP and attention visualizations, enabling analysts to make informed decisions. The final outcome includes a functional dashboard that combines detection performance with actionable, human-readable insights.

2.3.5.4 PhishGuard: End-to-End Email Phishing Detection System

Objective

The main objective of this project is to build an intelligent phishing detection system that accurately identifies malicious emails by combining HTML structure analysis, URL forensics, and NLP-based content evaluation. The system aims to deliver secure, server-side inference and real-time risk scoring to support users and analysts in making informed decisions.

Key Features

- Combines HTML signals, URL metadata, and NLP heuristics for accurate detection.
- Protects Hugging Face tokens and centralizes model communication.
- Provides live scanning updates using Server-Sent Events.
- Enables whitelist/blacklist management, model validation, and scheduled scans.
- Supports CSV uploads with per-email progress tracking.
- Handles email access safely through backend-controlled OAuth flows.

Tools & Technologies

Next.js, Tailwind CSS, Node.js, Express, Hugging Face Transformers, Inference API, PapaParse, SSE, JSON, PostgreSQL, Email HTML, text, URL metadata.

Expected Outcome

The system will provide a reliable and secure phishing detection platform capable of identifying suspicious emails with strong accuracy. It will offer real-time results, risk scoring, and an intuitive dashboard, ensuring both effective detection and a seamless user experience.

2.3.6 Projects Summary

S. No	Project Title	Category	POC Document	Status
1	Fake Domain & URL Detection	Threat Intelligence + ML (URL/WHOIS/DNS Analysis)	Yes	Completed
2	Cyber Threat prediction and Social media	OSINT + NLP/ML-based Threat Prediction	Yes	Completed
3	Explainable AI for Intrusion Detection	Explainable ML (XAI) for Network Security	Yes	Completed
4	PhishGuard: End-to-End Email Phishing Detection System	Email Security + NLP/ML-based Phishing Detection	Yes	Completed

2.3.7 Conclusion

The completion of the Cyber Security Internship Program (2 Months / 160 Hours) marks a significant milestone in preparing students for emerging opportunities in the rapidly advancing fields of cyber defense, threat intelligence, and AI-assisted security. Over the 8-week intensive training, interns demonstrated substantial technical growth by progressing from foundational cybersecurity concepts to advanced practices in ethical hacking, network security, intrusion detection, malware analysis, OSINT investigations, and cyber–AI integration. Participants also developed practical Proof-of-Concept (PoC) systems addressing real-world challenges such as fake domain detection, social media threat prediction, explainable intrusion detection, and email phishing analysis.

The dedication of the interns, the guidance of the instructors, and the continuous support from the NCAI Lab collectively contributed to a highly impactful and successful internship cycle. The PoCs produced during the program not only showcase strong technical competency but also provide a foundation for future research, industry collaboration, and the development of deployable cybersecurity solutions.

This internship reflects UET's commitment to nurturing industry-ready cybersecurity talent and strengthening its role as a leading center for innovation, applied research, and national cyber resilience. We look forward to continuing this momentum in future internship cycles and expanding opportunities for students to engage in high-impact cybersecurity and cyber–AI projects.

2.4 Game Design & Development Internship

Instructor: Ms. Taiyaba Sanaullah
Assistant Coordinator: Mr. Muhammad Ayaz

2.4.1 Executive Summary:

The Game Design & Development Internship (Cycle-2, Oct–Nov 2025) successfully trained 10 students in Unity, C#, Blender, AR/VR development, and game-based PoC creation. A total of seven PoCs were developed, two of which—AR Brain Simulation and AR Heart Simulation—are selected for formal PoC documentation and submission to potential funding agencies. This report summarizes the curriculum, training methodology, project outcomes, and future opportunities.

2.4.2 Introduction

The Game Design & Development Internship, conducted from 1st October to 30th November 2025, has been successfully completed under the National Centre of Artificial Intelligence (NCAI) at UET Lahore. This two-month program provided students with a comprehensive, hands-on learning experience in Unity game development, C# programming, 3D modeling, animation, AR/VR concepts, and project-based design workflows.

Throughout the internship, participants engaged in structured weekly training sessions and practical exercises that enabled them to translate theoretical knowledge into real game prototypes. By the end of the program, each intern team successfully developed and presented a Proof of Concept (PoC) aligned with global gaming trends—ranging from AI-driven gameplay to AR/VR interactive simulations.

The successful execution of this internship reflects the commitment of UET faculty, domain mentors, and the continued support of the 66-UET and 67-UET alumni sponsors, ensuring that students gain industry-relevant skills that prepare them for future opportunities in the fast-growing game development sector.

2.4.3 Overall Objective of the Internship Program

The primary objective of this internship program was to equip students with practical, industry-aligned skills through a structured, project-based learning approach. Over the two-month period, interns were trained to understand core game development concepts, apply modern tools such as Unity, Blender, and C#, and work collaboratively on real-world Proof of Concept (PoC) projects.

In addition to technical skills, the program emphasized teamwork, communication, documentation, and professional presentation abilities. Each team produced a complete PoC document and delivered a final project demonstration, ensuring that participants gained both technical competence and professional readiness. The program supports UET's mission to connect academic learning with industry expectations and foster innovation through hands-on project execution.

2.4.4 Game Design & Development Internship Outline

2-Month Game Design & Development Internship Outline	
	Course Title: Game Design & Development Duration: 2 Months (8 Weeks / 40 Working Days) Hours: 4 hours per day Total Contact Hours: 160 hours Total Trainees: 10 Instructor's Name: Taiyaba Sanaullah

No.	Week	Day	Topic Details
1	Week 1	Day 1	Unity Installation, Interface Overview
	Week 1	Day 2	Unity Layout, Project Setup, GameObjects
	Week 1	Day 3	Transforms, Prefabs, Layers & Tags
	Week 1	Day 4	Unity Physics: Rigidbody, Colliders, Triggers
	Week 1	Day 5	Basic UI Elements (Buttons, Panels, Text)
2	Week 2	Day 6	C# Basics: Syntax, Variables, Data Types
	Week 2	Day 7	If/Else, Switch, Loops in C#
	Week 2	Day 8	Unity Input System & Player Movement
	Week 2	Day 9	Camera Follow & Jump System
	Week 2	Day 10	Score System, Game Over & Win Conditions
3	Week 3	Day 11	Spawning Objects & Randomization
	Week 3	Day 12	Enemy AI: Chase Player with NavMesh
	Week 3	Day 13	Health & Damage System (Player & Enemy)
	Week 3	Day 14	Inventory: Pickups, Collectibles
	Week 3	Day 15	Scene Management & Level Transitions
4	Week 4	Day 16	UI Menus: Start, Pause, Game Over
	Week 4	Day 17	Unity Particle Systems (effects, hit FX)
	Week 4	Day 18	Audio Integration: BGM & SFX
	Week 4	Day 19	Build for Android (APK Creation)
	Week 4	Day 20	Mid-Course Review & Testing
5	Week 5	Day 21	Introduction to Blender UI & Tools
	Week 5	Day 22	Modeling: Basic Props (Crate, Barrel)
	Week 5	Day 23	Modeling: Complex Object
	Week 5	Day 24	UV Unwrapping & Texture Mapping
	Week 5	Day 25	Exporting Models to Unity
6	Week 6	Day 26	Rigging Human Character (Blender)
	Week 6	Day 27	Keyframe Animation: Walk, Idle
	Week 6	Day 28	Exporting Animation to Unity
	Week 6	Day 29	Animator Controller Setup
	Week 6	Day 30	Character Integration & Control in Unity
7	Week 7	Day 31	Designing 2D Sprites in Photoshop

No.	Week	Day	Topic Details
	Week 7	Day 32	Creating Backgrounds & UI Icons
	Week 7	Day 33	Creating a 2D Level in Unity
	Week 7	Day 34	Adding Touch & Joystick Controls
	Week 7	Day 35	Finalizing UI & Mobile Testing
8	Week 8	Day 36	Start Final Mini Project (Team-based)
	Week 8	Day 37	Continue Development (UI, Gameplay, Levels)
	Week 8	Day 38	Polishing: Effects, Audio, Animations
	Week 8	Day 39	APK Build, Bug Fixing, Submission
	Week 8	Day 40	Final Project Presentation & Feedback

2.4.5 PoC Projects Developed by Students During the Internship

The following Proof of Concept (PoC) projects were developed by the students during the two-month Game Design & Development Internship. The first two PoC projects—AR Brain Simulation and AR Heart Simulation—will also have complete PoC documents prepared for submission to various agencies and organizations for potential sponsorship and development funding.

A total of seven PoCs were developed during the internship, covering AR, VR, AI-driven gameplay, and mobile game prototypes.

2.4.5.1 Project 1: AR Brain Simulation

Developed by Team 1 (4 students)

Objective:
To design and develop an Augmented Reality (AR) brain simulation that allows users to spawn, rotate, scale, and interact with a 3D brain model. The project aims to educate users by highlighting different brain regions and displaying names, functions, and associated diseases.

Key Features:

- Interactive 3D brain model (move, rotate, resize)
- Highlighting of selected brain parts with visual effects
- UI panel showing titles, descriptions, and medical details
- Disease information (e.g., stroke, epilepsy, dementia)
- Smooth animations and transitions
- Real-time AR tracking and lighting

Tools & Technologies: Unity 2022+, AR Foundation, ARCore/ARKit, Blender, Photoshop, C#

Expected Outcome:
An educational AR tool enabling users to visually explore and understand brain anatomy and neurological disorders.

2.4.5.2 Project 2: AR Heart Simulation

Developed by Team 2 (4 students)

Objective:
To create an AR-based human heart simulation featuring realistic 3D visuals, animation, and layered anatomy views enabling students to explore cardiac structure, blood flow, and related diseases.

Key Features:

- Interactive 3D heart model with rotation and scaling
- Realistic heartbeat animation and blood flow visualization
- Highlighting of chambers, valves, arteries, and veins
- UI for part names, functions, and disease descriptions
- Layer toggle between outer and inner anatomy
- Immersive AR camera-based placement

Tools & Technologies: Unity, AR Foundation, Blender, Photoshop, C#

Expected Outcome:
A highly interactive AR learning tool for understanding heart anatomy and cardiovascular functions.

2.4.5.3 Survival Shooter Zombie Game

Developed by Team 3 (3 students)

Objective:
To develop a 3D first-person survival shooter where players face continuous waves of

enemies with increasing difficulty, showcasing AI navigation, gameplay mechanics, and real-time combat systems.

Key Features:

- Player movement, aiming, shooting mechanics
- Enemy AI with NavMesh-based chasing and attacking
- Wave spawning system with progressive difficulty
- Health, ammo, and damage systems with pickups
- Weapon switching and reloading mechanics
- UI for score, wave count, ammo, and player stats
- Optimized for smooth PC/Android gameplay

Tools & Technologies: Unity, C#, NavMesh, Blender

Expected Outcome:
A fully playable survival shooter demonstrating AI behavior, player mechanics, and level progression.

2.4.5.4 VR Fruit Ninja

Developed by Team 4 (3 students)

Objective:
To design a VR slicing game inspired by Fruit Ninja where players use VR controllers as swords to cut fruits while avoiding bombs.

Key Features:

- Dual VR controllers for sword-based slicing
- Physics-driven fruit and bomb spawning
- Cutting effects, particles, and motion trails
- Combo and accuracy-based scoring
- Timer, UI overlays, and immersive sound effects
- Designed for standalone VR systems

Tools & Technologies: Unity XR Toolkit, VR Headset (Quest/Vive), Blender

Expected Outcome:
An immersive and fast-paced VR experience focusing on reflexes, precision, and physics-based interaction.

2.4.5.5 VR Pet Simulator

Developed by Team 5 (3 students)

Objective:
To create a VR experience where players interact with a virtual pet using natural hand motions, strengthening emotional engagement through realistic pet behaviors.

Key Features:

- Full VR interaction (petting, feeding, throwing toys)
- Pet AI with idle, follow, and reaction animations
- House or park environment for free movement
- Grooming, feeding, and play activities
- Mood/emotional state system
- Minimal VR UI for stats and options

Tools & Technologies: Unity XR Toolkit, VR Headset, Blender

Expected Outcome:
A VR simulation promoting interaction-based gameplay and virtual pet bonding.

2.4.5.6 100 Doors – 2D Puzzle Game

Developed by Team 6 (3 students)

Objective:
To design a 2D puzzle-based escape game where players must solve logic puzzles in order to unlock and progress through 100 different doors.

Key Features:

- 2D puzzle levels with increasing difficulty
- Unique logic, pattern, and clue-based challenges
- Interactive objects and hidden hints
- Simple yet engaging UI and animations

- Progression tracking system
- Optimized for mobile gameplay

Tools & Technologies: Unity (2D), Photoshop, C#

Expected Outcome:
An addictive and intellectually engaging puzzle game offering progressively challenging levels.

2.4.5.7 3D AI-Driven Endless Runner Game

Developed by Team 7 (3 students)

Objective:
To develop a 3D endless runner featuring adaptive AI difficulty, dynamic obstacle generation, and smooth mobile-friendly gameplay.

Key Features:

- Procedural obstacle and level generation
- Lane switching, jumping, and sliding mechanics
- AI-based difficulty that increases based on player performance
- Score and distance tracking system
- Mobile-optimized controls and UI
- Dynamic environment and sound effects

Tools & Technologies: Unity, C#, Blender

Expected Outcome:
A polished mobile runner game with intelligent difficulty scaling and engaging fast-paced action.

2.4.6 Projects Summary

S. No	Project Title	Category	Team Size	PoC Document	Status
1	AR Brain Simulation	AR / Medical	4 students	Yes	Completed
2	AR Heart Simulation	AR / Medical	4 students	Yes	Completed
3	Survival Shooter	3D / AI	3 students	No	Completed
4	VR Fruit Ninja	VR	3 students	No	Completed

S. No	Project Title	Category	Team Size	PoC Document	Status
5	VR Pet Simulator				
6	100 Doors – 2D Puzzle Game				
7	3D AI-Driven Endless Runner Game				

2.4.7 Conclusion

The successful completion of the Game Design & Development Internship (1st October – 30th November 2025) marks a significant step in preparing students for emerging opportunities in the global gaming industry. Through eight weeks of intensive training and practical implementation, interns demonstrated creativity, problem-solving, and technical proficiency by developing fully functional PoCs across AR, VR, AI-based games, and mobile game prototypes.

The dedication of the students, mentorship of instructors, and generous support from the 66-UET and 67-UET alumni sponsors played a crucial role in making this cycle a success. The outcomes of this internship will contribute to future collaborations, industry partnerships, and potential funding opportunities for scaling these PoCs into full-fledged products.

This successful cycle reflects UET's commitment to nurturing future-ready talent and strengthening its position as a leading hub for innovation in digital technologies.

The next internship cycle (Cycle-3) will start from **1st January 2026**, and we look forward to continued sponsor support for further expanding this impactful program

2.5 Graphic Designing & 2D Animation

Instructor: Mr. Muhammad Nauman Hanif
Assistant Coordinator: Mr. Shakeel Ahmed

2.5.1 Executive Summary:

The **Graphics Designing & 2D Animation Internship (Cycle-2, Oct–Nov 2025)** successfully equipped students with essential practical skills in **visual design, creative storytelling, motion graphics, 2D animation, and digital content production**.

Throughout the internship, interns worked on multiple real-time creative tasks, developing a complete set of design and animation outputs, including **logo design, posters, social media creatives, thumbnails, short videos, animated videos, and scripted edited videos**. Students learned professional design tools, animation workflows, composition rules, colour theory, typography, and video editing techniques to produce visually compelling content.

In addition, interns created a **Proof of Concept (PoC)** – **EduGraphics Program**, showcasing how educational content can be transformed through impactful design and animation. They produced infographics, posters, and short animated videos to make academic topics more engaging and easier to understand. This PoC highlights how creative visual learning can support digital inclusion and enhance student understanding.

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2.5.2 Introduction

The **Graphics Designing & 2D Animation Internship**, conducted from **1st October to 30th November 2025**, has been successfully completed under the National Centre of Artificial Intelligence (NCAI) at UET Lahore. This two-month program provided students with comprehensive, hands-on experience in **visual design, motion graphics, and creative content production**. The program focused on practical skills in **logo design, brand identity creation, poster and social media content designing, video editing, and 2D animation workflows**.

Throughout the internship, students actively participated in structured weekly training sessions, live creative assignments, and PoC development, translating theoretical design principles into professional visual outputs. By the end of the program, interns had produced complete creative asset sets—including logos, posters, social media templates, thumbnails, edited videos, and animated videos—showcasing their ability to design impactful visuals for digital platforms. Their work covered concept sketching, storytelling, typography, color theory, visual composition, animation basics, and video editing.

The successful execution of this internship reflects the commitment of UET faculty, domain mentors, and the continued support of the **66-UET and 67-UET alumni sponsors**, ensuring that students gain industry-relevant creative skills that prepare them for future opportunities in the rapidly expanding digital design and animation industry.

2.5.3 Overall Objective of the Internship Program

The primary objective of this internship program was to equip students with practical, industry-aligned creative skills through a structured, project-based learning approach. Over the two-month period, interns were trained to understand core concepts of **graphic design, brand identity creation, visual communication, motion graphics, and 2D animation workflows**.

In addition to technical skills, the program emphasized **teamwork, communication, documentation, creative thinking, and professional presentation abilities**. Each team produced a complete **PoC document** and delivered a final creative project demonstration, ensuring that participants gained both creative proficiency and industry readiness. The program supports UET's mission to connect academic learning with industry expectations and foster innovation through hands-on visual content creation.

Graphic Designing & 2D Animation Internship

2.5.4 PoC Projects Developed by Students During the Internship

Under the ***EduGraphics*** *Program* Proof of Concept, interns are contributing to a creative educational initiative that transforms traditional learning into visually engaging experiences. They are designing infographics, posters, and short animated videos to simplify complex academic topics, making learning more interactive and accessible for students.
Through this project, interns are applying their design and animation skills to real educational challenges—bridging creativity with education and promoting digital inclusion. The PoC allows them to gain hands-on experience in educational content production while contributing to a sustainable model for visual learning innovation.

During the internship, interns worked on a complete set of **creative design and animation tasks**, following a structured visual production workflow. Each student produced a full range of digital assets, demonstrating their ability to design, animate, and edit content professionally.

2.5.5 Graphic Designing & 2D Animation Internship Outline

2-Month Internship Graphic Designing & 2D Animation Outline	
	Course Title: Graphic Designing & 2D Animation Duration: 2 Months (8 Weeks / 40 Working Days) Hours: 4 hours per day Total Contact Hours: 160 hours Total Trainees: 10 Instructor's Name: Muhammad Nauman Hanif

S. No	Week	Day	Topic Details
1	Week 1	Day 1	Photoshop Interface & Workspace Navigation
	Week 1	Day 2	Opening, Saving & Managing Files
	Week 1	Day 3	Canvas Setup – Crop, Resize, straighten
	Week 1	Day 4	Understanding Layers & Layer Masks
	Week 1	Day 5	Image Enhancements (Brightness, Contrast, Exposure)
2	Week 2	Day 6	Selections Tools & Techniques
	Week 2	Day 7	Brush Tool & Colour Correction Basics
	Week 2	Day 8	Retouching Tools – Healing, Clone, Patch
	Week 2	Day 9	Using Adjustment Layers for Editing
	Week 2	Day 10	Smart Objects & Non-Destructive Editing
3	Week 3	Day 11	Applying Filters & Transformations
	Week 3	Day 12	Blend Modes & Opacity Controls
	Week 3	Day 13	Shape Tools & Creating Custom Shapes
	Week 3	Day 14	Pen Tool Basics
	Week 3	Day 15	Layer Styles
4	Week 4	Day 16	Typography & Text Styling
	Week 4	Day 17	Fill Layers – Gradient, Pattern, Colour
	Week 4	Day 18	Project-Based Design Tasks
	Week 4	Day 19	Exporting & File Formats (Web/Print)
	Week 4	Day 20	Mini Photoshop Project
5	Week 5	Day 21	Illustrator Interface & Artboard Setup
	Week 5	Day 22	Navigation, Tools & Workspace Settings
	Week 5	Day 23	Selection & Direct Selection Tools
	Week 5	Day 24	Object Transformation & Alignment
	Week 5	Day 25	Drawing with Pencil, Pen, Shape Tools
6	Week 6	Day 26	Creating & Modifying Paths & Strokes
	Week 6	Day 27	Grouping, Arranging & Layers
	Week 6	Day 28	Custom Icons & Vector Shapes
	Week 6	Day 29	Working with Colours & Swatches
	Week 6	Day 30	Gradients & Pattern Creation
7	Week 7	Day 31	Appearance Panel & Transparency
	Week 7	Day 32	Typography – Artistic & Paragraph Text
	Week 7	Day 33	Using Grids, Guides & Smart Guides
	Week 7	Day 34	Importing & Managing Images
	Week 7	Day 35	Export Options – Web & Print
8	Week 8	Day 36	Photoshop Final Project
	Week 8	Day 37	Illustrator Final Project
	Week 8	Day 38	Mixed Media Design (Both Tools)
	Week 8	Day 39	Presentation Preparation
	Week 8	Day 40	Showcase + Feedback Session

2.5.6 Workflow followed by interns:

2.5.6.1 Logo & Brand Identity Design:

Creation of logos, color palettes, typography selections, and basic branding guidelines.

2.5.6.2 Posters & Social Media Creatives:

Designing posters, social media templates, announcements, and promotional graphics for digital platforms.

2.5.6.3 Thumbnails & Static Visuals:

Developing eye-catching thumbnails and static visuals for videos and social media posts.

2.5.6.4 Storyboarding & Concept Sketching:

Planning animations and edited videos through sketches, frames, and visual sequences.

2.5.6.5 Edited Video Production:

Producing scripted and non-scripted videos using professional video editing workflows.

2.5.6.6 2D Animation Development:

Creating short animated videos using animation principles, motion graphics, character movements, and transitions.

2.5.6.7 Creative Assignments & PoC Development:

Applying design and animation skills to the EduGraphics PoC focusing on educational visual content.

Tools & Technologies:

Canva, Adobe Illustrator, Adobe Photoshop, Adobe After Effects, CapCut, VN Editor, Blender, and additional animation/design tools.

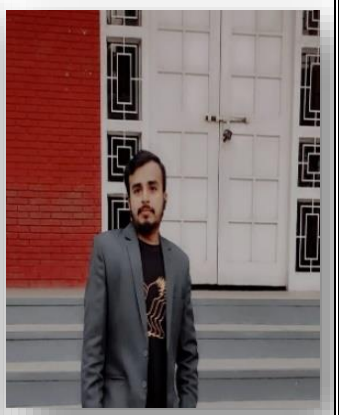
Expected Outcomes:

- Professionally designed logos and brand identity elements
- High-quality posters, social media graphics, and thumbnails
- Edited videos and short 2D animated videos
- Storyboards and conceptual sketches
- A complete PoC showcasing visual learning and educational content creation

2.5.7 Projects Summary

S. No	Brand Title	Category	Team Size	PoC Document	Status
1	Logo Design Collection	Branding & Visual Identity	1 intern	Yes	Completed
2	Poster Design Series	Print & Digital Posters	1 intern	Yes	Completed
3	Social Media Creatives	Digital Content Design	6 intern	Yes	Completed
4	YouTube/FB Thumbnails	Visual Thumbnails	6 intern	Yes	Completed
5	Edited Video Set	Scripted & Non-Scripted Editing	4 intern	Yes	Completed
6	2D Animated Videos	Motion Graphics & Animation	4 intern	Yes	Completed
7	Storyboard Drafts	Pre-Production Planning	2 intern	Yes	Completed
8	EduGraphics PoC Content	Educational Visual Content	4 intern	Yes	Completed

2.6 Digital Media Marketing & Entrepreneurship



Instructor: Ms. Tayyaba Hayat
Assistant Coordinator: Mr. Muhammad Umair

2.6.1 Executive Summary:

The **Digital Media Marketing Internship (Cycle-2, Oct–Nov 2025)** successfully equipped students with essential practical skills in **branding, social media management, SEO, content development, keyword research, audience targeting, and basic website setup & optimization**.

Throughout the internship, interns developed **nine complete brands**, which included logo creation, brand identity design, optimized social media pages, and SEO-based content planning. Students performed competitor analysis, keyword research, and on-page SEO practices to strengthen each brand's digital visibility.

In addition, interns created a **Proof of Concept (PoC) – Digital Empowerment Program**, showcasing how small local businesses can be digitally strengthened through branding, SEO, and social media presence. This report outlines the training structure, learning outcomes, and the practical work completed by students.

2.6.2 Introduction

The Digital Marketing & Entrepreneurship Internship, conducted from 1st October to 30th November 2025, has been successfully completed under the National Centre of Artificial Intelligence (NCAI) at UET Lahore. This two-month program provided students with comprehensive, hands-on experience in managing digital brands. The program focused on practical skills in content creation, social media management, SEO, Google Ads, and digital campaign execution.

Throughout the internship, students actively participated in structured weekly training sessions, live project work, and the development of Proof of Concept (PoC) projects, effectively translating theoretical concepts into actionable digital marketing strategies. By the end of the program, interns had successfully conceptualized, designed, and implemented **09 complete brand identities**, each featuring **strategic content planning, optimized social media presence, SEO-driven content, and measurable campaign outcomes**. Their work included logo design, brand identity creation, content writing, website development, Seo optimization, social media page optimization, content calendars, and execution of campaigns across multiple platforms, preparing them for real-world marketing challenges.

The successful execution of this internship reflects the commitment of UET faculty, domain mentors, and the continued support of the 66-UET and 67-UET alumni sponsors, ensuring that students gain industry-relevant skills that prepare them for future opportunities in the fast-growing online marketing sector.

2.6.3 Overall Objective of the Internship Program

The primary objective of this internship program was to equip students with practical, industry-aligned skills through a structured, project-based learning approach. Over the two-month period, interns were trained to understand core digital marketing concepts, including **branding, social media management, search engine optimization (SEO), content strategy, and digital advertising**.

In addition to technical skills, the program emphasized teamwork, communication, documentation, and professional presentation abilities. Each team produced a complete PoC document and delivered a final project demonstration, ensuring that participants gained both technical competence and professional readiness. The program supports UET's mission to connect academic learning with industry expectations and foster innovation through hands-on project execution.

2.6.1 Digital Marketing & Entrepreneurship Internship Outline

2-Month Digital Media Marketing & Entrepreneurship Outline	
	Course Title: Digital Media Marketing & Entrepreneurship Duration: 2 Months (8 Weeks / 40 Working Days) Hours: 4 hours per day Total Contact Hours: 160 hours Total Trainees: 10 Instructor's Name: Tayyaba Hayat

No	Week	Day	Topic Details
1	Week 1	Day 1	Introduction to Digital Media Marketing
	Week 1	Day 2	Benefits & Importance in Today's World
	Week 1	Day 3	Keyword Research & Analysis
	Week 1	Day 4	Keyword Tools + AI Assistance in Keyword Research
	Week 1	Day 5	Practical: Keyword Research for Different Niches
2	Week 2	Day 6	Canva Interface + Features
	Week 2	Day 7	Designing Brand Logo & Social Media Posts
	Week 2	Day 8	Product Image Design + Image Optimization
	Week 2	Day 9	Canva Animation + Image Compression
	Week 2	Day 10	Practical Designing Tasks
3	Week 3	Day 11	Overview & Setup of Key Platforms: Facebook, Instagram, TikTok, WhatsApp Business

No	Week	Day	Topic Details
	Week 3	Day 12	FB Page Setup + Management
	Week 3	Day 13	Content Planning & Uploading
	Week 3	Day 14	Meta Business Suite
	Week 3	Day 15	Monthly Schedule + Other Practices
4	Week 4	Day 16	Types of Ads
	Week 4	Day 17	Ad Setup
	Week 4	Day 18	Target Audience Research
	Week 4	Day 19	Ad Restrictions + Budget Estimation
	Week 4	Day 20	Practical Ad Setup Demo
5	Week 5	Day 21	Concepts of SEO + Its Types
	Week 5	Day 22	Creating Free Website for Each Student
	Week 5	Day 23	Content Writing
	Week 5	Day 24	SEO Optimization
	Week 5	Day 25	SEO Settings
6	Week 6	Day 26	OFF-Page SEO Factors
	Week 6	Day 27	Types of Links
	Week 6	Day 28	Blog Commenting
	Week 6	Day 29	YouTube Channel SEO
	Week 6	Day 30	YouTube Video SEO
7	Week 7	Day 31	Technical SEO
	Week 7	Day 32	SEO Audits
	Week 7	Day 33	Website Audit Practice + Tools
	Week 7	Day 34	AI Tools for Content Suggestions
	Week 7	Day 35	Practical Task: Complete SEO Audit
8	Week 8	Day 36	Website Development Project
	Week 8	Day 37	SEO Implementation Project
	Week 8	Day 38	Designing Project
	Week 8	Day 39	Social Media Marketing Project
	Week 8	Day 40	Final Presentations + Feedback

2.6.2 PoC Projects Developed by Students During the Internship

The *Digital Empowerment Program (PoC)* is a practical initiative designed to help small and local businesses establish their online presence through affordable and strategic digital marketing solutions. The project focuses on connecting skilled interns with real-world businesses that lack digital visibility, enabling mutual growth and hands-on learning.

During the internship, **nine individual brands** were developed and managed by interns, each following a complete digital marketing workflow:

- **Brand 1** – Modamira (Fashion)

- **Brand 2** – Glimora (SkinCare)
- **Brand 3** – Fitvia (Health & Fitness)
- **Brand 4** – Pawnest (Pet Products)
- **Brand 5** – Soundrift (Tech Gadgets)
- **Brand 6** – Casamist (Home Décor)
- **Brand 7** – Tech Studio (Technology)
- **Brand 8** – GreenHive (Organic Food)
- **Brand 9** – BeanVerse (Coffee)

2.6.3 Workflow followed by interns for each brand:

1. **Brand Identity & Logo Design:** Complete brand kits including logos, colour palettes, and branding guidelines.
2. **Website Setup & Content Writing:** Each intern set up a website, performed keyword research, and wrote SEO-optimized content.
3. **Blog Development:** Published 15 SEO-optimized blogs per website, integrating targeted keywords.
4. **On-Page SEO:** Interns optimized each website's pages with meta tags, headings, image alt text, and internal linking to improve search engine ranking.
5. **Off-Page SEO:** Backlinking and other strategies implemented to improve search engine ranking.
6. **Social Media Management:** Creation and optimization of social media handles on Facebook, Instagram, WhatsApp, TikTok, and other relevant platforms.
7. **Campaigns & Ads:** Paid campaigns and ads executed to increase brand visibility, reach, and engagement.

Tools & Technologies:

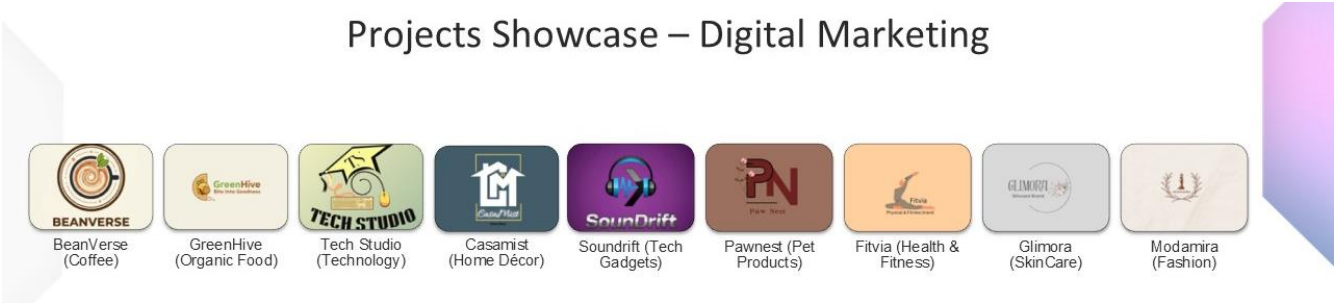
Canva, Adobe illustrator, WordPress, Meta Ads Manager, Google Analytics, Facebook, Instagram, TikTok, WhatsApp Business, Meta Business Suite, and more.

Expected Outcomes:

- Fully functional brand identities with consistent branding across all platforms
- SEO-optimized websites with published blogs
- Active social media presence and engagement
- Measurable results from campaigns and ads demonstrating the effectiveness of digital marketing strategies

2.6.4 Projects Summary

S. No	Brand Title	Category	Team Size	PoC Document	Status
1	Modamira	Fashion	1 intern	Yes	Completed
2	Glimora	SkinCare	1 intern	Yes	Completed
3	Fitvia	Health & Fitness	1 intern	Yes	Completed
4	Pawnest	Pet Products	1 intern	Yes	Completed
5	Soundrift	Tech Gadgets	1 intern	Yes	Completed
6	Casamist	Home Décor	1 intern	Yes	Completed
7	Tech Studio	Technology	1 intern	Yes	Completed
8	GreenHive	Organic Food	1 intern	Yes	Completed
9	BeanVerse	Coffee	1 intern	Yes	Completed



3 Hardware provided / Upgraded by the Sponsors

The success of the October Internship Program 2025 (Cycle-2) has been greatly enhanced by the hardware support generously provided by UET alumni donors from the 66-UET and 67-UET batches. Their contributions have enabled the modernization of AI and multimedia laboratories within NCAI UET Lahore, ensuring that interns can learn and experiment using current-generation computing and networking resources.

3.1 New High-performance Workstation.

- **CPU (Processor):** Ryzen 7 7700
- **Motherboard:** B650M
- **RAM:** 32 GB DDR5 – 5600 MHz
- **SSD (Solid State Drive):** 1 TB
- **HDD (Hard Disk Drive):** 4 TB
- **Power Supply**: 750W 80+ Gold
- **GPU (Graphics Card):** RTX 5070
- **PC Case:** Thunder Shield
- **Cooler / Fans / TM**: Thunder Jet
- **Networking / Connectivity Devices:** D-Link N300 + LAN Card

3.2 Upgrade of Existing PC to High-performance Workstation.

- **CPU (Processor):** Ryzen 7 5700X
- **Motherboard:** B550 Gaming
- **RAM:** Existing
- **SSD (Solid State Drive):** 1 TB
- **GPU:** Existing
- **Power Supply:** Existing
- **PC Case:** Thunder Tizona
- **Cooler/Fans/TM:** 240mm MSI

These upgrades have directly improved system performance, reduced setup delays during training sessions, and provided students a professional-grade environment for hands-on experimentation. The continued hardware investment from UET's alumni community reflects their enduring commitment to strengthening the university's capacity for **AI education, innovation, and applied research**.

4 Program Summary and Closing Remarks

The October Internship Program 2025 (Cycle-2) marks another proud milestone in UET Lahore's mission to combine academic excellence with hands-on, industry-aligned training. What began as an alumni-supported initiative has now evolved into a vibrant ecosystem of mentorship, innovation, and collaboration that continues to bridge the gap between theoretical learning and real-world application.

Across six specialized domains—**Generative AI, Artificial Intelligence, Cyber Security, Game Design & Development, Graphic Designing & 2D Animation, and Digital Media Marketing & Entrepreneurship**—interns demonstrated exceptional motivation, creativity, and technical growth. Their Proof-of-Concept (PoC) projects reflect the true spirit of applied learning, showcasing how classroom concepts can be transformed into practical solutions such as AI-powered assistants, cybersecurity detection systems, AR/VR educational tools, automated marketing pipelines, and intelligent digital-content frameworks.

A key highlight of this cycle has been the modernization of NCAI's AI and multimedia laboratories, made possible through the generous contributions of UET alumni from the **66-UET and 67-UET batches**. The addition of high-performance GPU workstations, upgraded PCs, Jetson Orin Nano kits, and enhanced networking equipment has created a professional-grade environment where students can experiment, innovate, and build industry-standard prototypes. These infrastructure upgrades will continue to benefit future internship cycles, faculty research initiatives, and broader innovation programs at UET.

The synergy between UET academia and its global alumni network remains the foundation of this program's success. While faculty and instructors provided structured supervision, the alumni community contributed vision, funding, and technical support—collectively creating a sustainable model for student empowerment and technology-driven development. This partnership demonstrates how alumni engagement can directly elevate educational quality and create long-term impact.

As the internship now enters its final evaluation phase, students are completing their capstone projects and preparing portfolios for presentation at the closing ceremony. A comprehensive final report—summarizing key outcomes, project highlights, and recommendations—will be shared with all donors and stakeholders in December 2025.

On behalf of UET Lahore and the National Centre of Artificial Intelligence (NCAI), we express our heartfelt gratitude to all alumni sponsors, mentors, instructors, and coordinators whose unwavering support has shaped the success of Cycle-2. Your continued involvement strengthens UET's capacity to deliver future-ready talent and fosters a culture of innovation, leadership, and academic excellence.

5 Acknowledgment of Alumni Sponsors and Mentors

The National Centre of Artificial Intelligence (NCAI) at the University of Engineering and Technology (UET) Lahore extends its deepest appreciation to all alumni sponsors, mentors, instructors, and coordinators whose unwavering dedication made the October Internship Program 2025 (Cycle-2) a remarkable success.

We express our special gratitude to the alumni of the **66-UET and 67-UET batches**, whose continued financial and technical support has played a pivotal role in strengthening UET's AI and multimedia ecosystem. Their contributions enabled the setup and upgrade of modern high-performance computing infrastructure—ensuring that students had access to the advanced tools and resources essential for developing impactful AI, cybersecurity, design, and digital-media projects.

Our heartfelt thanks also go to the domain instructors, assistant coordinators, faculty advisors, and administrative team members for their tireless efforts throughout the two-month program. Their guidance, mentorship, and commitment ensured that every intern received focused support, constructive feedback, and an encouraging learning environment that nurtured both technical competence and professional confidence.

This internship cycle stands as a shining example of the powerful collaboration between UET academia and its global alumni network. It reflects a shared vision of empowering students, strengthening academic excellence, and advancing UET's role as a national leader in AI-driven education and applied research.

As we prepare for the **3rd Internship Cycle starting 1st January 2026**, we look forward to continued alumni engagement, mentorship, and sponsorship—building on this shared legacy of learning, innovation, and alumni-driven development. Your partnership remains central to transforming the educational experience of UET students and shaping the future of Pakistan's technology landscape.

Prepared by:

NCAI–UET Internship Coordination Team
National Centre of Artificial Intelligence (NCAI)
University of Engineering and Technology, Lahore