



UET January Internship Program 2026 (Cycle-3)

Mid-Term Progress Report

Organized by: National Centre of Artificial Intelligence (NCAI), UET Lahore
Duration: 05 January 2026 – 06 March 2026
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1 Program Overview and Introduction

The **January Internship Program 2026 (Cycle-3)**, organized under the **National Centre of Artificial Intelligence (NCAI)** at the **University of Engineering & Technology (UET) Lahore**, has successfully reached its **mid-term milestone** as of **13 February 2026**. This fully-sponsored initiative—made possible through the generous and continued support of UET alumni from the **66-UET and 67-UET batches**—reflects the strong bond between the alumni community and their alma mater, and their shared commitment to empowering the next generation of engineers, technologists, and digital innovators.

The internship aims to **bridge the gap between classroom learning and real-world industry practices** by providing students with a structured, hands-on learning environment where theory meets application. Over the years, this alumni-supported model has evolved into one of UET's most impactful student-development initiatives—one that integrates skill enhancement, professional mentorship, and applied research experience within a collaborative academic setting.

A total of **60 students**, carefully selected through a competitive process, are enrolled in **six high-demand technology domains**, each reflecting emerging trends in the global digital economy. These include:

1. **Generative AI** – exploring the power of large language models, prompt engineering, and multimodal creativity;
2. **Artificial Intelligence (AI)** – focusing on data analytics, supervised learning, and predictive modeling;
3. **Cyber Security** – emphasizing ethical hacking, network defense, and data-protection practices;
4. **Game Design & Development** – covering Unity-based 2D/3D game creation, animation, and storytelling;
5. **Graphics Designing & 2D Animation** – nurturing design thinking, brand identity, and motion-graphics expertise;
6. **Digital Media Marketing & Entrepreneurship** – building entrepreneurial and communication skills through SEO, content strategy, and business branding exercises.

Each track follows a **blended learning structure** comprising theoretical instruction, guided laboratory sessions, and project-based assignments. Interns spend approximately **20 hours per week**—with 5 hours devoted to concept learning and 15 hours to hands-on work under the supervision of experienced instructors and domain coordinators. Weekly progress reviews, peer evaluations, and milestone presentations ensure consistent improvement and accountability throughout the internship.



The first half of the program has demonstrated **encouraging results**. Interns have successfully completed foundational modules in their respective domains, initiated proof-of-concept (PoC) projects, and participated in collaborative exercises designed to develop creativity, problem-solving ability, and teamwork. The program's unique structure has allowed students from diverse disciplines to exchange knowledge, interact across domains, and learn from mentors drawn from both academia and industry.

This **Mid-Term Progress Report** presents a detailed overview of the work completed so far, highlighting **domain-wise activities, student engagement, and ongoing project development**. The next phase will emphasize **capstone projects**, final assessments, and preparation of professional portfolios for presentation at the **closing ceremony**.

The final comprehensive report—featuring consolidated results, project evaluations, and success stories—will be released at the **conclusion of the program on 06 March 2026**.

The January Internship Program stands as a **model of alumni-driven educational collaboration**, proving that the synergy between UET's academic leadership and its global alumni network can directly enhance the quality, reach, and relevance of engineering education in Pakistan.



2 Midterm Reports (Domain-Wise)

2.1 Generative AI

Instructor: Ms. Tooba Pervaiz

Assistant Coordinator: Ms. Asma Fatima



During the midterm phase, interns have covered foundational to advanced topics up through **Retrieval-Augmented Generation (RAG)**. They mastered NLP **preprocessing** (tokenization, stemming, lemmatization, POS tagging, NER), built and applied full pipelines, explored sequence models (**RNNs, LSTMs, GRUs**) and transformers, **fine-tuned models** like DistilBERT, compared architectures, studied LLM evolution (GPT, BERT, T5), implemented prompt engineering to build chatbots via OpenAI/HuggingFace APIs, applied parameter-efficient fine-tuning with **LoRA/QLoRA** (including evaluation and documentation), and developed basic **RAG pipelines** using tools like LangChain, LlamaIndex, or Haystack, along with evaluation and improvements.

POC Project: A Deepfake Video Generation & Analysis System

The *Deepfake Video Generation & Analysis System* addresses the rising threat of AI-generated synthetic media (deepfakes) by building a dual system for both generating various types of deepfakes (visual, audio, audio-visual) using state-of-the-art generative models and detecting them via robust multimodal deep learning approaches that analyse spatial/temporal artifacts, frequency features, and cross-modal inconsistencies.

As part of this PoC, interns are conducting literature reviews, implementing deepfake generation pipelines using state-of-the-art models, training and evaluating multimodal detection models on benchmark datasets, and documenting workflows for reproducibility. In the next phase, they will refine detection accuracy, integrate ethical considerations and safety checks, prepare professional demos, and deliver final presentations with impact analysis. This initiative allows interns to practically apply their generative AI, multimodal learning, and ethical AI skills while contributing to solutions for combating misinformation and enhancing digital trust.



2.2 Artificial Intelligence (AI)

Instructor: Mr. Muhammad Abdullah

Assistant Coordinator: Ms. Laiba Abbas



During the first month of the AI internship, interns advanced from foundational to advanced Python programming, covering data preprocessing, exploration, and visualization. They then implemented core Machine Learning algorithms including Linear Regression, Logistic Regression, Decision Trees, KNN, and Random Forests, along with appropriate evaluation metrics.

These concepts were applied through practical projects such as Hospital Cost Prediction using regression models, and detailed case studies including Cycle Sharing Scheme analysis (Statistics & Probability), Concrete Compressive Strength prediction (Regression), Yahoo Stock Prediction (Time Series), Keyword Clustering, and Ohio Clinic Classification.

Transitioning into Deep Learning, interns developed ANN and CNN models for the MNIST Handwritten Digit Recognition project and deployed their solutions using Streamlit. They also completed advanced projects such as Facial Emotion Recognition and Fake News Detection (Binary Classification).

In addition, interns successfully completed the Prompt Engineering course by DeepLearning.AI and are currently midway through the Computer Vision module. Upon completion, they will undertake further Computer Vision and NLP projects alongside the development of their final capstone project.

PoC Project: AI-Based Industrial Defect Detection.

This project aims to solve the problem of manual product inspection in manufacturing industries. In many factories, quality checking is performed by human workers, which is time-consuming, costly, and prone to human error. Small or microscopic defects in products such as metal sheets, fabrics, electronic boards, or bottles can be missed, leading to quality issues and financial loss. This project will use Artificial Intelligence and Computer Vision to automatically detect defects from product images. The system will capture or take an image



of the product, process it using image preprocessing techniques, and analyze it through deep learning models based on Convolutional Neural Networks (CNN). For classification tasks, architectures such as ResNet or EfficientNet can be used, while for detecting and localizing defects in real-time, object detection models like YOLO can be applied.

2.3 Cyber Security

Instructor: Dr. Muhammad Waseem

Assistant Coordinator: Ms. Laiba



During the initial phase of the **Cyber Security Internship**, interns built a practical foundation in core cybersecurity concepts, secure lab operations, and offensive security practices. The program began with structured onboarding and hands-on environment setup, where interns configured Kali Linux, vulnerable virtual machines, and controlled network architectures to support safe testing. **Governance, Risk, and Compliance (GRC) principles** were introduced alongside NIST and ISO checklist exercises to encourage structured, risk-aware decision-making. Interns also explored AI security through jailbreak exercises, gaining insight into how large language models can be manipulated and where safeguards may fail. This was followed by focused training in information gathering, including OSINT, DNS analysis, subdomain discovery, and network scanning using industry-standard tools, reinforcing investigative discipline within authorized environments.

The training then continued with **Red Team and Blue Team activities** to give interns a well-rounded experience of attack and defense plans. On the attacking front, interns studied web application attacks like XSS, SQL Injection, CSRF, authentication attacks, and access control attacks, verifying attacks with lab exercises and recording mitigation processes.



PoC Project: Explainable AI Analytics for Security Decisioning

Today, the need for **enterprise security solutions** has become more **Dependent** on machine learning and behavioral analysis to identify threats in today's complex digital landscape. These solutions have enhanced detection abilities, they have also introduced the problem Non-transparent anomaly scores that are not reasoned out.

Explainable AI Analytics for Security Decisioning is developed to fill this need by adding a layer of reasoning and transparency on top of existing security solutions like SIEM, XDR, UEBA, and EDR solutions. Instead of being a replacement for these solutions, this solution complements them by taking unrefined alerts and turning them into explainable insights that can be understood and defended by security analysts during audits.

The solution is centered on providing contextual narratives, feature attribution, and behavioral mappings that are consistent with **MITRE ATT&CK techniques**. This solution allows security teams to make well-informed decisions without having to bank on blind trust in machine scores.

2.4 Game Design & Development

Instructor: Ms. Taiyaba Sanaullah

Assistant Coordinator: Mr. Muhammad Ayaz



During the midterm phase, interns progressed from foundational to advanced concepts in **Game Development using Unity**, gaining hands-on experience with the engine's **core architecture and essential systems** while building both **2D and 3D interactive projects**. They developed a strong understanding of the **Unity Editor workflow, project structuring**, and **C# scripting fundamentals** grounded in object-oriented programming.



Through practical implementation, they explored the **GameObject lifecycle** and Unity's **component-based architecture**, working extensively with physics systems such as **RigidBody, Colliders, Triggers, and force-based interactions**. Interns implemented various **character controllers** including **First Person, Third Person, Plane Controller, and Bike Controller**, while also mastering **animation systems through the Animator Controller** for smooth state transitions and gameplay responsiveness. They applied **NavMesh AI** for enemy movement and pathfinding, designed complete **UI systems (Canvas, Buttons, Panels, HUD, and Score Systems)**, and managed **scene management and game state control** effectively. Additionally, they integrated **background music and sound effects**, optimized projects using **mobile performance techniques**, deployed builds for **Android and WebGL**, and practiced preparing and refining **Game Design Documents (GDDs)**.

POC Project: YouTube Animation Channel (Rhymes & Short Educational Content)

This project focuses on creating and publishing short animated rhymes and educational videos on YouTube. Interns develop skills in 2D and 3D animation, visual storytelling, and audio-visual synchronization by aligning voiceovers, music, and sound effects with animated scenes. The workflow includes scriptwriting, character animation, scene composition, and video editing using tools such as After Effects, Premiere Pro, Audacity, and Photoshop. Interns also handle thumbnail design and video publishing through YouTube Studio. Team roles include Animator, Audio Editor, Content Designer, and Publisher. The expected outcome is a live YouTube channel showcasing creative storytelling, animation production, and digital content management skills.



2.5 Graphics Designing & 2D Animation

Instructor: Mr. Muhammad Nauman Hanif

Assistant Coordinator: Mr. Shakeel Ahmed



The Graphics and 2D Animation domain has successfully completed core modules on design principles, color theory, and digital composition using Adobe Illustrator and Photoshop. Interns have applied these concepts through hands-on projects such as poster design, logo creation, banners, and YouTube thumbnails, effectively blending creativity with technical execution.

At present, they are developing complete brand identity designs for multiple businesses and managing visual content for a YouTube channel as part of their experiential learning. In the upcoming phase, the focus will shift to video editing and 2D animation production, where interns will explore professional tools and workflows to create high-quality motion graphics and visual storytelling content.

POC Project: Creative Video Production Lab

Under the Creative Video Production Lab Proof of Concept, interns are actively involved in producing engaging video content for digital platforms. They work on editing short promotional videos, reels, educational clips, and highlight videos to communicate ideas effectively through visual storytelling.

Through this project, interns apply practical video editing techniques, sound synchronization, transitions, and pacing to real-world content requirements. The PoC enables interns to gain hands-on experience in video production workflows while strengthening their creative, technical, and storytelling skills for digital media and marketing environments.



2.6 Digital Media Marketing & Entrepreneurship

Instructor: Ms. Tayyaba Hayat

Assistant Coordinator: Mr. Muhammad Umair



During the midterm phase, interns completed the foundational modules of Search Engine Optimization (SEO) and content marketing. They learned keyword research, structured content writing, and on-page optimization techniques. Each intern developed a basic website, optimized it according to SEO best practices, and published blog content to enhance organic visibility and search rankings.

Additionally, they gained practical design experience using Canva, creating logos, banners, and brand kits to establish cohesive brand identities.

In the next phase, interns will progress to Social Media Marketing (SMM), focusing on page and handle creation, campaign planning, and hands-on execution. They will learn to design, launch, and manage digital marketing campaigns while analyzing performance metrics to improve reach, engagement, and overall campaign effectiveness.

PoC Project: Campus Brand Visibility Project

The Campus Brand Visibility Project (PoC) is a focused initiative aimed at enhancing the digital presence of university departments, laboratories, and student societies through structured digital marketing practices. The project is designed to strengthen on-campus communication, visibility, and engagement by utilizing student-driven digital efforts.

As part of this PoC, interns will manage official social media pages, design content calendars, and create engaging visual and written content tailored for the student community. Interns will also perform basic SEO and outreach activities to improve online discoverability and engagement. This initiative provides interns with hands-on experience in social media management, content planning, and digital branding while contributing to improved visibility and connectivity across the university campus.



3 Hardware Upgrades and System Enhancements

The success of the **January Internship Program 2026 (Cycle-3)** has been significantly strengthened by the continued hardware and financial support generously provided by UET alumni donors, particularly from the 66-UET, 67-UET, & 82-UET batches.

This cycle, in addition to upgrading AI and multimedia laboratories at NCAI UET Lahore, dedicated equipment has also been procured for the **Game Design & Development Lab**, further expanding hands-on learning capacity in high-performance graphics and interactive development.

These contributions have enabled interns to train, experiment, and build advanced projects using current-generation computing, GPU-powered systems, and modern networking infrastructure—ensuring industry-aligned, practical learning experiences.

3.1 New High-performance Workstation.



(Above picture to be replaced with new HW picture)

- **MOBO:** MSI PRO B650-S WIFI ATX AM5 DDR5 with 2 years local warranty
- **CPU:** AMD RYZEN 7 7700 – Tray with 1 year local warranty
- **GPU:** Zotac Gaming GeForce RTX 5070 Solid 12GB with 1 year local warranty
- **COOLER:** DeepCool AK400 Digital CPU Cooler – Black with check warranty
- **RAM:** ADATA 32GB (2×16) DDR5 5600MHz Premier Desktop Memory Stick - with 2 years local warranty
- **SSD:** LEXAR NQ790 2TB M.2 NVME GEN4 with 2 years local warranty
- **PSU:** XPG Pylon 750W 80 PLUS Bronze PSU with 2 years local warranty
- **CASE:** DarkFlash DF2100 ARGB Mid-Tower ATX Gaming Case – Black



4 Program Summary and Closing Remarks

The **January Internship Program 2026 (Cycle-3)** marks another proud milestone in UET Lahore's ongoing mission to integrate academic excellence with hands-on, industry-aligned training. As this mid-term stage concludes, it is evident that the initiative has evolved into much more than a short-term internship—it has become a **living ecosystem of mentorship, innovation, and alumni collaboration** that continues to strengthen the bridge between classroom learning and practical application.

Across six specialized domains—**Generative AI, Artificial Intelligence, Cyber Security, Game Design & Development, Graphics Designing & 2D Animation, and Digital Media Marketing & Entrepreneurship**—interns have shown outstanding motivation, creativity, and progress. Their ongoing work on **Proof-of-Concept (PoC)** projects demonstrates how theoretical learning can be effectively translated into real-world solutions. From AI-powered assistants and cybersecurity simulations to multimedia content creation and digital-marketing strategies, every domain has contributed tangible outcomes that reflect both academic rigor and professional relevance.

A major highlight of this cycle has been the **hardware modernization and infrastructure upgrade** generously supported by **UET alumni from the 66-UET, 67-UET, & 82-UET batches**. The addition of **high-performance GPU workstations** has significantly enhanced the AI and multimedia laboratories at NCAI-UET. These upgrades have not only improved computing speed and system reliability but have also created a professional-grade learning environment for students. This forward-looking investment will continue to benefit future cohorts, faculty research projects, and innovation initiatives—cementing UET's capability to deliver cutting-edge AI education and applied research.

The **synergy between UET academia and its global alumni network** remains the cornerstone of this program's success. While mentors and coordinators have provided structured supervision, the alumni community has contributed vision, funding, and technical resources that make such transformative initiatives possible. Together, they have established a sustainable model for alumni-led educational development that directly empowers students and strengthens the university's academic ecosystem.

As the program now moves into its **final month**, interns are focusing on completing **capstone projects, evaluation exercises, and professional portfolio development**. The closing ceremony in late March will showcase their final deliverables, reflecting the full range of technical and creative skills acquired during the two-month cycle. A comprehensive final report summarizing key outcomes, success stories, and recommendations will be shared with all donors and stakeholders in **March 2026**.

On behalf of **UET Lahore** and the **National Centre of Artificial Intelligence (NCAI)**, we express our deepest appreciation to all **alumni sponsors, mentors, instructors, and coordinators** for their invaluable contributions. Your generosity and commitment continue to transform vision into reality, reinforcing the legacy of UET as a pioneer in AI education and innovation.



5 Acknowledgment of Alumni Sponsors and Mentors

The organizing team of the **National Centre of Artificial Intelligence (NCAI), University of Engineering and Technology (UET) Lahore**, extends its heartfelt appreciation to all UET alumni sponsors, mentors, instructors, and coordinators whose unwavering support and generosity made the **January Internship Program 2026 (Cycle-3)** a remarkable success.

We particularly acknowledge the continued commitment of alumni from the **66-UET, 67-UET, & 82-UET batches**, whose financial and technical contributions facilitated the setup and enhancement of modern, high-performance computing and multimedia infrastructure, directly enriching the learning experience of our students.

Our sincere gratitude is also extended to the faculty advisors, domain instructors, assistant coordinators, and administrative team for their dedication and mentorship throughout the program. Their collective efforts ensured that every intern received meaningful guidance, practical exposure, and the confidence necessary for professional growth.

This program reflects the strength of collaboration between UET academia and its global alumni network—a partnership that continues to elevate the university's standing in AI and emerging technology education.

Looking ahead, we are pleased to share that planning is already underway for the **4th Internship Cycle**, scheduled to commence on **1st April 2026**. We sincerely look forward to your continued guidance, mentorship, and sponsorship support to make the upcoming cycle even more impactful and inclusive—further advancing our shared goal of nurturing Pakistan's next generation of AI-driven innovators and professionals.

Prepared by:

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