

# Muhammad Abuzar

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## Objective

Highly motivated and enthusiastic Computer Science undergraduate with a strong foundation in software engineering, artificial intelligence, and data science. Passionate about problem-solving, innovation, and knowledge sharing, with hands-on experience in machine learning, computer vision, and full-stack development. Skilled in applying Python and LLMs to real-world challenges through an entrepreneurial mindset. Actively seeking internships to grow professionally and aspiring to pursue a Master's degree to specialize in cutting-edge technologies.

## EDUCATION

### Ghulam Ishaq Khan Institute of Engineering Sciences and Technology

Bachelor of Computer Sciences

Cumulative GPA: 3.61/4.0; Dean's List 2022-2024

Topi, PK

Expected May 2026

### Pakistan International School Jeddah (English Section)

A-Levels

Jeddah, KSA

Aug 2020 - Jun 2022

## WORK EXPERIENCE

### Shispare Pvt. Ltd.

Karachi, PK

Artificial Intelligence Intern

Jul 2024 – Aug 2024

- Implemented various AI/ML models, including Yolov8, LSTM, and 3D-CNN, to enhance the performance of a shoplifting detection system, reducing false positives by 20%.
- Resolved 8–10 diverse blockers related to CCTV video configurations, data augmentation strategies, and data labeling challenges, ensuring smooth pipeline integration and improved model reliability.
- Managed data collection, augmentation, data processing, and labeling processes in a team of 5, ensuring high-quality training datasets were used for model development.
- Worked on a chatbot using LLaMA 3, focusing on prompt engineering. Manually created over 1,000 prompts to fine-tune the system for enhanced interaction and accuracy.

## UNIVERSITY PROJECTS

### Py2048

- A Python implementation of the classic 2048 game was developed using PyGame for an immersive gaming experience.
- Designed every image and icon from scratch.

### TypeMate

- Analyzes a 5-word typing history as input to predict the next word, enhancing efficiency, speed, and accuracy up to 80%.
- Utilizes an LSTM model using TensorFlow, trained on multiple English books and structured with software engineering principles for scalability.

### DensClust

- Implemented DBSCAN in C++ using Qt to cluster datasets of up to 10,000 data points, enabling efficient density-based analysis.
- Achieved 91% accuracy in visual cluster identification on synthetic and real-world datasets, with an interactive UI for parameter tuning and outlier detection.

### LogiTrac

- Designed and developed a Next-Gen Warehouse Inventory & Shipment Management System using HTML, CSS, Python Django, PostgreSQL, and Github (Git) for version control, streamlining operations and reducing manual errors by 40%.
- Integrated Google Maps API for real-time GPS-based shipment tracking, enhancing supply chain visibility, and enabling data-driven decision-making across warehouse logistics.

### **The 4X Core: Multi-Accumulator CPU Design**

- Engineered a custom CPU architecture with four 16-bit accumulators and a scalable instruction set, achieving up to 30% reduction in instruction latency through parallel processing.
- Optimized memory access using multiple addressing modes, enhancing data throughput and improving overall CPU performance in compute-intensive tasks.

### **MatchMind**

- Built a football match outcome prediction model using Random Forest and Gradient Boosting in Python, achieving 70% prediction accuracy on historical match data.
- Enhanced model performance through comprehensive data preprocessing, feature engineering, and in-depth analysis of over 1,000 past matches.

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## **ACTIVITIES**

### **GIKI SCIENCE SOCIETY**

Head of Liaison and Modules

- Organized and promoted 6 national STEM events, engaging 500+ participants from across Pakistan, while managing cross-functional coordination between modules, teams, and external stakeholders.
- Led and coordinated teams of 20+ members per event, ensuring effective communication, task delegation, and collaboration across diverse technical and non-technical domains.

### **Microsoft Club GIKI**

Head of Logistics

- Managed end-to-end logistics for a national Hackathon with 50+ participants, overseeing venue setup, technical arrangements, and on-ground coordination.
- Navigated tight deadlines and last-minute changes by proactively addressing logistical challenges, ensuring seamless event execution under high-pressure conditions.

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## **ADDITIONAL**

**Technical Skills:** Proficient in Python, C++, SQL; Intermediate in Javascript, Java

**Certifications & Training:** Foundations of User Experience (UX) Design (Coursera), Introduction to Cloud Computing (Coursera)