Awwab Usama Abdus Samad

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Personal Profile

Senior Computer Engineering student with hands-on experience in machine learning and AI. Interned in ML research and completed a course project in neural networks. Developed AI-driven applications, including diet prediciton systems, intelligent customer chatbots, and product recommendation systems. Passionate about solving complex problems through AI. Seeking a Master's degree in AI and opportunities in ML research, development, or related fields.

Education

Bachelor of Science in Computer Engineering — **2021 – Present**
Information Technology University, Lahore, Pakistan — *CGPA: 3.80/4.00*

High School Diploma Equivalent (GCE A-Levels) — **2019 – 2021**
Lahore Grammar School, Johar Town, Lahore, Pakistan — *Percentage: 90.36%*

Secondary School Certificate (GCE O-Levels) — **2016 – 2019**
Beaconhouse Garden Town, Lahore, Pakistan — *Percentage: 89.33%*

Technical Skills

- **Programming Languages:** Python, Javascript, C/C++, MATLAB
- **Machine Learning & Deep Learning:** TensorFlow, Scikit-Learn, Pandas, NumPy, Matplotlib
- **Data Science & AI:** Computer Vision, Data Preprocessing, Feature Engineering, Model Training
- **Developer Tools:** Git, GitHub, VS Code, Jupyter Notebook
- **Designing Tools:** Figma, Photoshop, Canva

Professional Experience

Machine Learning Intern — **May 2024 – July 2024**
Punjab Information Technology Board (PITB) — *On-Site*

- Worked with large-scale crop datasets and Sentinel-2 satellite imagery to classify crops in Punjab using different machine learning models.
- Developed Geographic Information Systems (GIS) interactive visualizations in Google Earth Engine to map crops in colored regions.

Skills Used: Python, Google Earth Engine, VS Code, Excel

Undergraduate Teaching Assistant — **Jan 2025 – Present**
Information Technology University (ITU) — *On-Site*

- Assisted the course instructor in teaching Database Management Systems course for Software Engineering students.
- Conducted TA sessions, graded quizzes and assignments, and provided support for students in SQL and database design.

Projects

Diet Type Recommendation System, Class Project — **May 2024**
Information Technology University — *Github*

- Designed and trained an MLP neural network model using machine learning to predict personalized diet plans for individuals with risk of chronic diseases based on their medical profiles.
- Evaluated model's performance with confusion matrices and achieved 92% accuracy.
- Authored a research paper in IEEE format to document findings and methodology.

Skills Used: MATLAB, Python, VS Code, Excel, LaTeX

Assistant Chatbot, Final Year Project — **Dec 2024**
Information Technology University — *GitHub*

- Developed a RAG-based AI chatbot to assist customers on an e-commerce platform by utilizing OpenAI's GPT models for intelligent query responses.
- Implemented vector embeddings and document chunking to retrieve relevant product and support information from our store database.

Skills Used: Next.js, TypeScript, MongoDB, OpenAI API

Courses & Certifications

- **Machine Learning with Python** — IBM (Coursera) — **Completed: Jul 2024**
  Skills Gained: Supervised & Unsupervised Learning, ML Algorithms, Python Libraries for ML

- **Introduction to Computer Vision and Image Processing** — IBM (Coursera) — **Completed: Mar 2025**
  Skills Gained: Image Processing Techniques, OpenCV & Pillow Library