Muhammad Aleem Azhar

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EDUCATION

Rhodes College, **Memphis, TN, USA**   **Graduation: May 2026**
Bachelor of Science in Computer Science, Minor in Statistics
- Honor Roll (Fall'23)

Yonsei University, South Korea   **Fall 2024**
Bachelor of Science in Computer Science (study abroad)
- Artificial Intelligence, Computer Vision for Data Science

Roots IVY International, Pakistan   **Graduate: May 2022**
Cambridge International AS & A Levels
- 4.0/4.0 GPA

PROFESSIONAL EXPERIENCE

RSA: Data-Manager and Administrative Support   **January 2023 - Present**
Student Employee (Rhodes College)
- **Led a cross-functional team** to execute campus events, resulting in a **20% increase in student engagement**.
- **Automated payroll and job listing workflows** using Python scripts, boosting efficiency by **30%**.
- **Enhanced student-employer communication** with a feedback loop system, improving satisfaction by **25%**.

RHOK-SAT CubeSat Research Project   **May 2023 - July 2023**
Intern (Rhodes College)
- **Executed satellite tracking** with TLEs and Gpredict, achieving **95% accuracy** in data processing.
- **Developed a Python-based server** for real-time logging, ensuring **99.9% uptime**.
- **Designed a real-time telemetry dashboard** using Plotly and Dash, improving data analysis speed by **40%**.
- **Created a secure satellite tracking website** with Python (Dash), enhancing user interaction by **15%**.

PROJECT

Image Classification Neural Network Framework   **November 2024**
Developer
- Designed a modular API for **backpropagation** in Python, enabling flexible computational graph construction.
- Built core neural network layers (**Fully Connected, ReLU, Softmax**) and trained a two-layer network to classify Fashion MNIST images with **90%** accuracy.
- Tuned hyperparameters, including learning rate and momentum, to improve training efficiency by **25%**.
- Enhanced model performance using **L2 regularization** and **SGD** with momentum, reducing overfitting.

Cancer Cell Detection with Computer Vision   **October 2024**
Developer
- Developed Python-based algorithms for **detecting cancer cells** in pathology images using **Difference of Gaussian (DoG)** filters.
- Implemented **Sobel and Laplacian of Gaussian (LoG)** operators for edge detection, **enhancing image** analysis accuracy.
- Built an automated pipeline for blob detection and cell counting, improving biomedical research efficiency by **30%**.

CERTIFICATION

IBM AI Developer Professional Certificate
- **Acquired skills** in **software engineering**, **generative AI**, web application development, and **data science**
- Key competencies include **prompt engineering**, **Python**, **Flask**, **JavaScript**, and building **AI-powered applications**

TECHNICAL EXPERIENCE

- **Programming Languages:** Python, Java, C/C#, NIOS Assembly, HTML/CSS
- **Frameworks:** Flask, Node.js, FastAPI, WordPress
- **Developer Tools**: Git, VS Code, Linux Vim, Unity, Blender
- **Libraries:** Pandas, NumPy, Matplotlib, Plotly, Transformers
- **Soft Skills:** Problem-Solving, Team Collaboration, Communication, Time Management, Adaptability