AHMAD SHAHZAD CHOUDHARY

⌖ 1332 Campus Drive, Durham, NC 27708 | ☎ +1 (217)-220-6093 | ✉ ahmad.choudhary@duke.edu

EDUCATION

DUKE UNIVERSITY *Durham, NC*

B.S. in Computer Science & Finance (Concentration in AI/ML)

Relevant Coursework: Data Structures & Algorithms, Design & Analysis of Algorithms, Computer Architecture, Discrete Mathematics, Proof-Based Linear Algebra, Advanced Multivariable Calculus, Probability, Elements of Machine Learning, Databases

EXPERIENCE

KOTWAL RESEARCH LABS (DARK MATTER PARTICLE PHYSICS) *Durham, NC*

Research Assistant *Sep 2023 – Jun 2024*

- Learning unsupervised AI integration to train models to accurately predict decaying particle's paths and movements.
- Coding in **C/C++** to convert code into physical microchips while maintaining efficiency in runtime and costs for the optimal production.

CENTER FOR VIRTUAL IMAGING TRIALS *Durham, NC*

Research Assistant *Nov 2023 – Jun 2024*

- Collaborated with an interdisciplinary team to integrate **FEBio** tool into research workflow, streamlining model creation process and reducing production time by 30%.
- Implemented advanced **C++** and **Python** scripting techniques to create realistic lung models for simulation, improving accuracy compared to previous models.

TECHNOLOGY STUDENT ASSOCIATION *Oklahoma City, OK*

Chapter President *Aug 2018 – May 2023*

- Utilized cloud hosting on **AWS** and developed the front end using **React-Native** and **JS** to ensure seamless scalability and high performance for the application, resulting in a 65% uptime and improved user experience.
- Researched and developed a renewable energy-based design system for transporting food into space, resulting in a 40% reduction in energy consumption and increasing efficiency by 30% compared to current published methods.
- Developed **CAD** models using **AutoDesk Inventor** and graphic designing software (Adobe Suite, DaVinci Resolve).

PROJECTS

ML/AI Robotics Match Prediction *Cary, NC*

Personal Project *Feb 2024 – Mar 2024*

- Utilizing the Statbotics API to predict matches with around a 85% success rate and alliance selections for FIRST Robotics.
- With assistance from **Scikit-Learn,** coded cross validation (feature importance) by way of Random Forest Classifiers. In addition, ran a binary classification to train the data on accuracy.

Stock Investment Portfolio *Cary, NC*

Duke Fuqua School of Business *Jun 2024 – Present*

- Developed a custom stock investment portfolio website utilizing **Svelte** for the framework and **Tailwind CSS** for responsive design, enhancing user experience and interface efficiency
- Implemented a robust back-end using **Flask API** and Python scripts to handle real-time stock data processing, providing accurate and timely investment insights. Currently working on hosting the platform for broader accessibility.

Retrograde: Space Exploration Website *Oklahoma City, OK*

Technology Student Association *Dec 2022 – Apr 2023*

- Employed **HTML**, **CSS**, and **JavaScript** to create dynamic backend data storage functionality for the website, improving load times by 35% and reducing server costs by 15%
- Developed and executed a comprehensive training program for team members on **Github** (desktop and website), **AWS**, resulting in a 30% increase in productivity

ACHIEVEMENTS

Finalist in ASA DataFest; Duke Statistics and Mathematics Department	*Mar 2024*
Qualified from 3,300 teams – International Finalist; FIRST Robotics Worlds Competition	*Apr 2023*
Top 10 / 250,000+ participants; Technology Student Association's National Webmaster Cup	*Jul 2022*
International Semi-Finalist from 300+ teams; StellarXplorers Association Competition	*Apr 2022*
Honorable Mention in Math Modeling; Duke Mathematics Department	*Nov 2023*

SKILLS

Coding & Modelling: Python (Matplotlib, Tensorflow), Java, JavaScript (Svelte, React, Node.js), C++, C, C#, SQL, AWS, CAD