Aryan Mathur

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EDUCATION

Duke University   Durham, NC
BSE Electrical and Computer Engineering, BS Computer Science, ML Concentration   *Aug. 2021 – May 2025*

Coursework: Deep Learning, Analysis of Algorithms, Computer Engineering and Neural Networks, Advanced Web Development, Computer Vision, Databases, Network Architecture, Computer Architecture

EXPERIENCE

Machine Learning and AI Intern   May 2024 – August 2024
Intel   *Folsom, CA*
- Implemented an NLP tool on 700+ service tickets on the Flex Series GPU to better understand customer issues
- Developed benchmarking tool for the Flex Series GPU for pytorch and tensorflow based AI workflows
- Released tool as part of v1.4 verification suite, available for major intel original equipment manufacturers

Software Engineering Intern   May 2023 – August 2023
Qorvo   *Greensboro, NC*
- Reduced run time of SQL query for RF device test data by over 85% with Python optimization
- Developed Python GUI for verifying 200+ datasheet items reducing a 1 week manual process to under 10 minutes

Computer Science Teaching Assistant   August 2022 – May 2023
Duke University - Data Structures and Algorithms, Intro to Data Science   *Durham, NC*
- Led weekly discussion section of over 20 students and served over 300 students and as lecture assistant
- developed optimization scripts for homework grading, held office hours, and extra exam prep

Software Engineering Intern   May 2022 – July 2022
Ford Motor Company   *Dearborn, MI*
- Worked with the Research and Advanced Engineering department under the Shadow Software Team
- Developed Python/XML scripts within the Franca Framework validating access to 30+ AutoSAR applications

Artificial Intelligence Research Assistant   August 2018 – May 2020
Arizona State University   *Tempe, AZ*
- Conducted research to predict the band gap property of over 144,000 compounds using Machine Learning
- Trained dataset from the Materials Project research group on 13 ML models, final accuracy of 0.85
- Awarded International Finalist at the 2020 INSPO Research and Innovation Competition

PROJECTS

Helian | *VueJS, Django, PostGresQL, LangChain, Gemini, Playwright - helianinvestments.com*   April 2024
- Full-Stack web app for visualizing enviromental impact of your portfolio, developed with Django and VueJS
- Data aggregation and RAG pipeline via scraping fortune 500 ESG reports, extracting carbon and diversity data
- Selected for the Duke Melissa And Doug Entrepreneurship program with over 10k in grants/funding

Best Use of Statistical Analysis - Duke Datafest 2023 | *Jupyter, R, AutoKeras*   March 2023
- Utilized Pandas and Tidyverse to create visualizations, and TextBlob and Autokeras to conduct sentiment analysis
- Predicted the response time for a post with a RMSE of about 6 days using sentiment and post author data
- Authored a report for analyzing response times and question sentiment in ABA free law answers

SPIRO - 1st at HackDuke 2022 | *Python, Flask, RaspberryPi, Hardware, Biotech*   October 2022
- Developed an at-home pulmonary disease management tool with a full-stack IoT web application
- Responsible for development of website and interfacing with hardware alongside a team in under 18 hours
- Used Flask for backend, JavaScript for charts and UI, sockets for wireless communication to device

Babii - 2nd at HackDuke 2021 | *Python, Flask, Computer Vision, Hardware*   October 2021
- Created computer vision based safety device and full-stack web app for parents monitoring infants
- Developed text notification system and Flask backend for the team, completed in under 24 hours
- Used Twilio API for texts, sockets for comms, OpenCV and raspberryPI cam for object detection

The FoldTron | *Computer Vision, Python, C, Electronics — tinyurl.com/FoldTronDemo*   March 2019
- Designed, prototyped, and built a smart based laundry folding from scratch under $ 100
- Trained a fast and accurate (98.5%) transfer learning object detection algorithm on over 70 images
- Won 3rd at the AZ Science and Engineering Fair and approved for a provisional patent by the US Patent Office

SKILLS AND INTERESTS

Languages: Java, Python, C/C++, SQL (Postgres), JavaScript, TypeScript HTML/CSS, R,
Libraries: Vue, React, Flask, Django, LangChain, PyTorch, TensorFlow, pandas, NumPy, Matplotlib
Clubs: Duke Quant Finance (DQF), The Cube Entrepreneurship Group, Smart Home, Duke Business Society, Chamber Orchestra
Interests: Cello, Classical Guitar, Boxing, Tennis, Card Games, Cooking