

Ayaan Faisal

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EDUCATION

Rutgers University Honors College | GPA: 3.8/4.0

B.S in Computer Science and Data Science, Minor in Quantitative Economics

Expected Graduation: May 2027

New Brunswick, NJ

- **Coursework:** Intro to Artificial Intelligence, Software Methodology, Computer Architecture (C), Data Structures and Algorithms (Java), Systems Programming (C), Discrete Math, Linear Algebra, Calculus, Data 101, Statistics, Economics
- **Activities:** Competitive Programming Club, Quantitative Finance Club, Muslim Tech Collaborative

PROJECTS

Car Deal Rating Model | R, XGBoost, Random Forest, Ensemble Learning

Nov 2025

- Built a classification model in R using **XGBoost** to rate used-car deals on **10,000** listings from Dubai, achieving **92%** cross-validation accuracy.
- Engineered new variables that captured hidden patterns between price, mileage, and benchmark value and reduced multicollinearity between overlapping inputs, improving validation accuracy by **4%**.
- Reduced a **4-5%** overfitting gap by using 5-fold cross-validation, model stacking, and probability-based ensembling, so that the final accuracy stays applicable for data not used to train the model.

Skin Lesion Classifier | React, Flask, PyTorch, timm, ONNX Runtime, TensorFlow

Oct 2025

- Built a **React** front end to let users upload or take a photo, a **Flask** backend that calls predictive models to classify the lesion, followed by Google-Gemini-powered guidance to streamline users' dermatological concerns.
- Designed & trained **2** machine learning models for skin-lesion recognition: **EfficientNet** (via **timm/PyTorch**) and a custom **Convolutional Neural Network**, to achieve **85%** validation accuracy on a **10**-class set.
- Engineered scalable MLOps pipeline by exporting **PyTorch** models to **ONNX** and unifying inference across various libraries to ensure the models can run on **3+** frameworks and **3+** hardware backends (**CUDA/CPU/MPS**).

Fantasy Football With Stocks | React, FastAPI, PostgreSQL, WebSocket, AsyncIO, Pandas, Alpaca

Jul 2025

- Delivered a real-time multiplayer platform (user auth, private leagues, chat, player draft) by orchestrating WebSockets in **FastAPI** and **React Context** to create a friendly venture into personal finance.
- Decreased external API calls by caching recent stock prices in batches via **Supabase/PostgreSQL** and filling short gaps with **Pandas** to cut price lookup time by **70%**.
- Prevented cross-league state leakage across **50+** leagues with per-league locks in **AsyncIO** and presence/timeouts over **WebSocket** to increase draft reliability under concurrency.

AI Text Analyzer | FastAPI, Python, Beautiful Soup, Requests, React, CSS, OpenAI

Feb 2025

- Built a web tool that accepts a URL, fetches and cleans the article (**Requests/Beautiful Soup**), then uses **OpenAI** to conveniently summarize tone and flag biased or extreme phrasing.
- Implemented a **FastAPI** backend with input validation and lightweight rate limiting, returning an analysis on text sentiment and extremity with brief rationales.
- Shipped a dynamic, responsive **React** front-end using **HTML, CSS, and JavaScript** for seamless user interaction.

LEADERSHIP / EXPERIENCE

WWP HSN Student Association

Sept. 2023 – June 2024

Plainsboro, NJ

Officer & Fundraiser Lead

- Transformed a fundraiser rejection into requirements: mapped admin concerns into constraints, reframed pitch, and secured approval, to engage **100+** donors, and raise **\$1,000** for humanitarian aid.
- Aligned stakeholders across the board and administration by translating feedback into a compliance-ready plan and updating materials to meet school policies.
- Developed an execution playbook (roles, cash-handling, comms) enabling smooth delivery with **0 incidents**.

TECHNICAL SKILLS

Programming Languages: Java, Python, C, R, JavaScript, SQL (PostgreSQL), HTML/CSS, L^AT_EX

Tools: Pandas, PyTorch, ONNX, TensorFlow, XGBoost, Random Forest, React, Node.js, FastAPI, AsyncIO, Websocket

APIs/Other: Git, RESTful API Development, Object Oriented Programming, macOS, Unix, Vercel

Awards/Accolades: Honors College, Dean's List: Spring 2025, Fall 2024