

VARUN ARAVAPALLI

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EDUCATION

New York University, Tandon School of Engineering

May 2025

B.S *Computer Science, Math*

Coursework: Algorithms (Graduate), Blockchain and DLT, Operating Systems, Data Science II, OOP(C++), Linear Algebra, Calc III, Mathematics of Finance, Data Analysis and Probability, Databases, Intro to Game Theory

SKILLS

Languages | Python, C/C++, SQL, JavaScript, HTML, CSS, R, Solidity, Bash

Tools | AWS, RestAPIs, Kibana, Jira, Confluence, Linux/UNIX Scripting, Git, MySQL, Docker, Kubernetes

Frameworks | pandas, NumPy, matplotlib, SKLearn, TensorFlow, PyTest, Flask, SQLAlchemy, Truffle, web3.js, next.js

WORK EXPERIENCE

Barclays | Software Engineering Intern

Jun 2023 - Aug 2023

- Developed an advanced **Python** script utilizing **Pandas**, and **SQLAlchemy** to optimize equities CASH desk information request queries and integrated real-time day orders via RESTful APIs to increase efficiency by 7%.
- Identified and addressed critical issues pertaining to **canceled order slices reverting to the trading desk**; leveraged **Kibana** and Python for data-driven actionable insights for 3 Financial Exchanges.
- Learned EQ Workflows to conduct **in-depth analysis** and crafted 10+ comprehensive System / Algo CRS documents.

Numina | Software Engineering Intern

Jan 2023 - May 2023

- Built a Python based data ingestion service that continuously pulls an **AWS s3** instance to convert a real time image stream to multiple 1-min video sequences used for prediction and analysis
- Developed a **computer vision tool** to perform entity detection of a real time video of traffic camera footage in NYC, and compiled and analyzed accuracy statistics of over 500 video sequences using **pandas** and **geopandas**

Amnesia Media | Data Science Intern

May 2022 - Aug 2022

- Developed a **novel YOLOv5-based** object detection system for product platform "Highlyte" to detect whether images, videos and captions are compliant with cannabis advertising regulations
- Built a deep **CNN image classifier** to increase image detection accuracy for at-risk images, with a test mAP@0.5 of 76% with no false positives

RESEARCH & LEADERSHIP EXPERIENCE

Computational Geometry Research | Undergraduate Researcher

Aug 2023 - Present

- Analyze the **Optimal Slope Selection** Problem supervised by Professor Boris Aronov in Computational Geometry
- Created a literature survey to trace the development of the optimal algorithm and variants by comparing pertinent research papers, create a brief survey of results and **visualization** for the most optimal versions of the algorithm

NYU FAMS Research Lab | Undergraduate Researcher

Aug 2022 - Mar 2023

- Created robot dynamics module with **C++** to **compute actuator pressure** required for a three- pronged medical robot hand to apply desired force to subject under supervision of Professor Rui Li.
- Created a **trajectory planning algorithm** to guide the hand towards target location. Deployed module on **NVIDIA Jetson Nano** microcontroller.

NYU Blockchain and Fintech | VP of Development

Apr 2023 - Present

- Leading a team of 12 students to create an Poker dApp leveraging Coinbase **Base L2** Development System. Features a lightweight solution with players staking USDC/ETH for buy-ins, and a separate CRUD application utilizing the **Polybase SDK** as an effective and decentralized database and a React-esque **NEAR** frontend.
- Designed and launched an NFT collection leveraging **DALL-E** and deployed on **Polygon Mainnet**, coupled with an ERC-20 token using **Truffle** and **Remix**, to establish a fully operational DAO for NYU Blockchain.

NYU CS Tutoring Center | Head Computer Science Tutor

Aug 2022 - Present

- Serving as a Head Computer Science Tutor for CS-1114, 1134, 2124 (Intro, DS, OOP)