

# Pranav Shukla

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## Education

### Michigan State University

Bachelor of Science in Computer Science

East Lansing, MI

Sep. 2020 – Dec. 2024

Relevant Coursework: Databases, Object Oriented Programming, Algorithm Engineering, Data Structures, Computer Networks

## Technical Skills

**Computer Languages:** C/C++, Python, JavaScript/TypeScript, AARCH64, SQL, YAML, HTML/CSS

**Technologies:** AWS, React, Django, PostgreSQL, Docker, Kubernetes, Tensorflow, Pandas, LINUX, Postman, Flask

## Experience

### Software Engineering Intern

The Vanguard Group

May 2024 – Aug. 2024

Malvern, PA

- Developed **AWS Lambdas** used in ETF Collateral, saving \$8 Million per year from reduced human error
- Expedited data processing development for a project for **GDP Nowcasting**, resulting in a 2x more effective team

### Software Engineering Intern

The Vanguard Group

May 2023 – Aug. 2023

Malvern, PA

- Engineered DSCR calculations in **TypeScript** to reduce client computing time, boosting trade performance by 5%
- Implemented a bond trading heatmap using **D3** React library to simplify a UI and decrease trader stress by 10%
- Built a **React** hook to fetch and parse data from **S3 buckets**, boosting loading speeds by 25%
- Overhauled Fitch bond grade calculations using **Python, boto3, and Flask** to improve calculation speeds by 17%

### Software Engineering Intern

The Vanguard Group

May 2022 – Dec. 2022

Malvern, PA

- Developed cloud infrastructure with **SpringBoot** to connect traders to data suppliers, saving >\$100,000 / month
- Programmed **AWS Lambda** hosted FaaS with **Python's boto3** library to find and delete data from **Glue** databases
- Configured 30 **Atlassian Bamboo** builds with **YAML**, routing storage manipulation services to proper AWS servers

### Research Assistant

Intelligent Data Analytics (ILLIDAN) Lab

Sep. 2021 – Mar. 2022

East Lansing, MI

- Built an automated limit order book with more than 12,000 realistic buys and sells to train a **TensorFlow** model
- Integrated **LSTM** modules in an SNN to predict limit order book trades, growing simulated trade volumes by 15%

### Technician

Michigan State University ComArtSci

Nov. 2021 – May 2022

East Lansing, MI

- Ran technical operations and helped over 350 staff and students with technical problems
- Collaborated with staff to fix 5 network outages and provide support when faculty and students were effected
- Set up ethernet wiring throughout building, giving more than 3,500 people secure access to the internet

### Business Analyst Intern

Chime Menu, RecTable LLC.

May 2020 – Aug. 2020

Ann Arbor, MI

- Architected and implemented new strategy for customer onboarding, decreasing client training times by 50%
- Increased sales 75% by presenting competitive analysis decks to chief officers and changing product strategy

## Projects

### AirFleet | Django, React, PostgreSQL, AWS Lightsail, Auth0, aviationstack

July 2023 – Present

- Engineered a user login page using **Auth0** for isolated and secure account access
- Created a **PostgreSQL** database to store all data, and is maintained on **AWS Lightsail**
- Implemented RESTful architecture with **Django** for entry, updating, and deletion of logbook data by users
- Connected **Django** to a **React** frontend to provide a smooth user experience

### Stock Correlator | BeautifulSoup4, SciKit-Learn, pandas, Yahoo! Stocks API

January 2024 – Present

- Scraped S&P 500 stock tickers on Wikipedia using **Python's BeautifulSoup4** library
- Used **Yahoo! Stocks API** to pull all OHLC data since 2000 into a **pandas** dataframe
- Algorithmically calculated R value of Adjusted Closes between companies using **SciKit-Learn**
- Creates 500 x 500 **matplotlib heatmap**, including color-coding for positive and negative correlations