Pranav Shukla

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Education

Michigan State University	East Lansing, MI
Bachelor of Science in Computer Science	*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 — May 2024 – Aug. 2024
The Vanguard Group — *Malvern, PA*
- Developed **AWS Lambdas** used in ETF trading, saving $8 Million per year from reduced human error
- Tested endpoints using technologies such as **Splunk** and **Postman**, accelerating testing time by 30%
- Managed development for a project for **GDP Nowcasting**, resulting in a 2x more effective team

Software Engineering Intern — May 2023 – Aug. 2023
The Vanguard Group — *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 — May 2022 – Dec. 2022
The Vanguard Group — *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 — Sep. 2021 – Mar. 2022
Intelligent Data Analytics (ILLIDAN) Lab — *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 — Nov. 2021 – May 2022
Michigan State University ComArtSci — *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 — May 2020 – Aug. 2020
Chime Menu, RecTable LLC. — *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