

Pranav Shukla

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WORK EXPERIENCE

Vanguard

Malvern, PA

Software Engineer Intern, Global Investment Financial Systems

May 2024 – Aug 2024

- Engineered a suite of AWS Lambdas to automate ETF trading operations, delivering annual savings of \$8M.
- Trimmed testing cycles by 30% using Splunk and Postman, resulting in high client satisfaction with reliability and delivery speed of project.
- Directed workflows using Agile methods as PM for a project, providing rapid delivery of GDP nowcasting results for client.

Vanguard

Malvern, PA

Software Engineer Intern, Global Investment Financial Systems

May 2023 - Aug 2023

- Optimized DSCR calculations in TypeScript to elevate trade performance by 5% and reduce trader stress by 10% through the deployment of an interactive bond trading heatmap built with the D3.js React library.
- Revamped data operations by crafting a custom React hook that enhanced data fetching speeds by 25% and overhauling the Fitch bond rating system with Python, Flask, and AWS boto3 to increase bond grade calculation speeds by 17%.

Vanguard

Malvern, PA

Software Engineer Intern, Global Investment Financial Systems

May 2022 - Aug 2022

- Constructed a cloud infrastructure using SpringBoot that connected traders with real-time data suppliers, saving over \$100K monthly, and automated data cleanup via AWS Lambda functions with Python's boto3 to cut storage costs.
- Configured 30+ Atlassian Bamboo CI/CD pipelines with YAML to optimize deployments for AWS-hosted services.

Michigan State University

East Lansing, MI

Technician, Communication Arts and Sciences

Nov 2021 - May 2022

- Provided technical support to over 350 students and staff, swiftly resolving 5 network outages to restore connectivity.
- Installed ethernet wiring across the building, ensuring secure internet access for more than 3,500 users.

PROJECTS

AirFleet

Jan. 2025 - Present

- Built an authentication system using NextAuth for secure, isolated user account access and deployed scalable infrastructure on Railway for persistent data storage using PostgreSQL.
- Developed a ChatGPT-based wrapper that summarizes flight logs, cutting data review time by 40% and accelerating decision making.

Henry Ford Health – Research Synergy Vanguard Portal

Sep. 2024 - Dec. 2024

- Enhanced researcher collaboration by integrating Elasticsearch with Flask-based API endpoints, easing collaborator search process.
- Automated the extraction of critical research data from Henry Ford's "Find A Doc" system using Python's BeautifulSoup4 and designed intuitive React.js UI components to ensure a seamless user experience.

SpartaHack X - WasteWise

Feb. 2025

- Developed a smart waste bin system with React and Flask, integrating an ESP32-S3 and ultrasonic sensor for monitoring.
- Leveraged PyTorch and Torchvision to train a computer vision model that classifies waste types and triggers alerts.

SKILLS

Languages: Java, C, C++, JavaScript, TypeScript, Python, SQL, HTML5, CSS

Technologies: Next.js, React, Docker, AWS, Django, Flask, PostgreSQL, Linux, Cursor, Elasticsearch, Pytorch, Bamboo, Splunk

EDUCATION

MICHIGAN STATE UNIVERSITY

EAST LANSING, MI

B.S Computer Science

Sep. 2020 – Dec. 2024

- Courses:** Data Structures & Algorithms, Discrete Structures, Computer Architecture & Organization, Web Development, Computer Systems, Computer Graphics, Mobile Development, Data Analysis, Biometrics and Pattern Recognition