

Pranav Viswanathan

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EDUCATION

Northeastern University, Boston, MA

Sep 2024 - May 2026

Master of Science, Computer Science

- **Coursework:** Programming Design Paradigm, Algorithms, Foundations of AI, Database Management Systems

Vellore Institute of Technology, Chennai, India

May 2024

Bachelor's in technology, Computer Science and Engineering

- **Coursework:** Operating Systems, Distributed Systems, Cloud Computing, Networking, Computer Architecture

WORK EXPERIENCE

NergyLive

May 2023 - Jul 2023

Project Intern

Kerala, India

- Built real-time HVAC anomaly detection using isolation forests and statistical process control, processing 10K+ sensor readings/minute with sub-100ms latency
- Built interactive Plotly dashboards with drill-down capabilities for 20+ system parameters, enabling engineers to identify root causes 3x faster and reducing average troubleshooting time from 45 to 15 minutes
- Collaborated with cross-functional teams to deploy the anomaly detection system into a live production environment, reducing downtime incidents and cutting maintenance costs by 15%.

PROJECTS

Image Processing and Manipulation Toolkit (Java, MVC, Junit4)

Sep 2024 - Dec 2024

- Developed an advanced image processing toolkit with compression, color correction, histogram analysis, and level adjustments, reducing processing time by 60% and optimizing storage usage.
- Implemented batch scripting workflows, improving efficiency by 30% and added split-view transformations for precise visual comparisons.
- Implemented split-view transformations and advanced histogram/color peak alignment tools, enabling precise visual comparisons and improving user editing workflows by 10%.
- Created over 300 automated JUnit tests to ensure robust functionality in a production-grade codebase.

Web and VM Hosting platform (Flask, Docker, AWS)

Oct 2022 - Jan 2023

- Developed a self-hosted cloud resource management platform using Flask and Pulumi Automation API to provision AWS EC2 instances and S3-hosted static websites via a web interface.
- Implemented Infrastructure as Code workflows with Pulumi to dynamically create isolated stacks for each VM and site, enabling independent lifecycle management and improving deployment reliability.
- Containerized the platform for reproducible deployments and faster setup, enabling teams to spin up new environments with minimal configuration.

Blockchain-based decentralized file storage system (Flask, Docker, AWS)

Jan 2023 - Mar 2023

- Architected a decentralized medical database system using Flask, Docker, and AWS to unify patient records across hospitals, enabling seamless access to critical information during emergencies.
- Implemented blockchain-backed storage and access control to ensure data integrity, traceability, and secure sharing between distributed healthcare providers.
- Optimized data pipelines and blockchain anchoring mechanisms, improving auditability and integrity of patient medical records while preserving privacy via synthetic datasets or anonymized inputs

TECHNICAL KNOWLEDGE

- **Languages:** Java, Python, SQL, C/C++, R, Git, Matlab, PHP, Javascript
- **Databases:** MySQL, Postgres, MongoDB, Firebase
- **Web Technologies:** React.js, Node.js, Next.js, HTML, CSS, PHP, React, Flask, Django, JSP, Flutter
- **Certifications:** Google Cloud Essentials, Create and Manage Google Cloud Resources, Postman Student Expert, Supervised Machine Learning: Regression and Classification