Venkat Pantham

Seattle, WA

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https://github.com/VenkatPantham | https://venkatpantham.github.io/

Summary

Software Engineer with 4+ years of experience building high-performance applications and scalable architectures. Expert in optimizing systems and creating innovative, user-centric solutions focused on solving complex challenges at scale. Driven by full-stack development, machine learning, and data-driven solutions that fuel innovation, efficiency, and business impact.

Education

University of Maryland, Baltimore County — **Aug 2023 - May 2025**
Master's, Computer Science (GPA: 3.7) — *Baltimore, MD*
- **Coursework:** Design and Analysis of Algorithms, Intro to Machine Learning, Intro to Data Science, Computer Architecture

Jawaharlal Nehru Technological University, Kakinada — **Aug 2016 - May 2020**
Bachelor's, Computer Science (GPA: 3.5) — *Kakinada, AP*
- **Coursework:** C, C++, Java, Python, R and Linux Programming, Data Structures, Mobile Computing, Web Technologies

Work Experience

Matrix Intelligence | ** *SDE Intern* — **May 2024 - Aug 2024
- Increased system responsiveness by 35% by implementing scalable Spring Boot endpoints and adding ArcGIS support, strengthening geospatial data handling, enabling real-time location tracking, and allowing faster map rendering.
- Optimized routing calculation time by crafting advanced algorithms with efficient data structures, which minimized processing delays and refined path selection for real-time navigation and enhanced traffic analysis for accurate routing decisions.
- Boosted operational efficiency by 30% by launching a new UI featuring ArcGIS integration and OAuth-secured access, improving user interactions, ensuring secure authentication for data access, and simplifying role-based permissions.

Aspire InfoLabs | ** *Software Engineer* — **Oct 2020 - Aug 2023
- Attracted 20,000+ active users in six months by building a multi-platform healthcare app with real-time chat and secure payment systems, synchronizing data across devices, and collaborating within Agile sprints with designers and engineers.
- Reduced app crashes by 50% by engineering a React Native tracking application linked with Apple Health, identifying and resolving stability issues using Crashlytics and systematic debugging to enhance reliability and user trust.
- Refined a NodeJS-based subsea solution, leveraging MongoDB and GraphQL to streamline data storage, retrieval, and processing, which decreased query response times and accommodated larger datasets efficiently for real-time analytics.
- Achieved 150k+ downloads globally by leading the creation of a healthcare ecosystem for virtual consultations and medical transport, enabling seamless deployments across Android and iOS platforms while preserving cross-platform compatibility.
- Enhanced website traffic by revamping the company site and admin portal with interactive animations, restructuring navigation, simplifying content management, and optimizing documentation for better maintainability and developer collaboration.

Edyst | ** *Full-Stack Intern* — **May 2019 - Jul 2019
- Developed a scalable MERN stack food-ordering platform for 1,000+ users, supporting 20 API endpoints, optimizing database queries for reduced load times, and accelerating data handling speed for faster and more reliable order management.
- Transformed mock-ups into responsive React components, achieving layout consistency across devices and browsers, and deployed the front-end on Netlify and back-end on AWS to streamline development, increase server stability, and ensure high availability.

Projects

XR-DaaS - AI-Powered Chest X-ray Analysis | https://github.com/VenkatPantham/xr-daas
- Built a 95% accurate YOLOv8 model for chest X-ray abnormality detection, integrating OpenAI for AI-driven medical insights.
- Implemented HIPAA-compliant security with AES encryption, AWS S3 storage, and role-based control to safeguard medical data.
- Launched a React & Flask-based web application with an intuitive UX, increasing AI adoption by 40% among doctors and patients.

Maryland Crime Rate Analysis & Economic Correlation | https://github.com/VenkatPantham/SAFE-MD
- Predicted crime rates with 85% accuracy through inference on 10 years of socio-economic data, revealing crime-influencing factors.
- Trained ML models, XGBoost and time series forecasting, to identify connections between education, unemployment, and crime.
- Designed a Streamlit dashboard with real-time visualizations, deploying ML pipelines on AWS for insights and decision-making.

Skills

- **Languages:** Java, Javascript, Typescript, Python, C++, HTML, CSS, PHP
- **Frameworks:** React Native, Node.js, Express.js, Spring Boot, Flask, Angular, Vue.js, Next.js
- **Libraries:** React.js, Redux, GraphQL, Bootstrap, Material UI, Tailwind CSS, Socket.io, JUnit, Jest
- **Databases:** SQL, NoSQL, PostgreSQL
- **Tools & Platforms:** Git, Linux, Docker, Kubernetes, AWS, Salesforce, JIRA, VSCode, Eclipse, Postman, MS Office

Certifications

- AWS Certified Solutions Architect
- Full-Stack Web Development with React Specialization
- Master Micro Services with Spring Boot and Spring Cloud
- JavaScript Algorithms and Data Structures