

Tanuj Ithesh Kumar

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Github: github.com/tanujsurana | Portfolio: bit.ly/tanuj-projects

(Eligible to work in the U.S. under CPT followed by 3 years of OPT; no visa sponsorship required.)

PROFESSIONAL SUMMARY

Fullstack Software Engineer and M.Eng. Computer Science student at the University of Cincinnati with hands-on experience designing, developing, and deploying **scalable, secure, and user-centric applications** in Agile/Scrum environments. Proficient in **React, Node.js, Python, Java**, and cloud platforms, delivering **production-grade solutions** optimized for performance, reliability, and compliance. Skilled in **stakeholder collaboration**, applying **debugging and telemetry tools**, and implementing **automation** to improve quality and efficiency. Passionate about leveraging technology to solve complex problems, enhance user experiences, and drive measurable business impact.

CORE COMPETENCIES

Programming & Frameworks: JavaScript (ES6+), TypeScript, Python, Java, SQL, React.js, Redux, Node.js, Express.js, Tailwind CSS, Bootstrap

Cloud & DevOps: Docker, AWS (EC2, S3), Firebase, GitHub Actions, CI/CD Pipelines

Data & AI/ML: scikit-learn, TensorFlow, Keras, Model Evaluation (Confusion Matrix, ROC)

Software Engineering Practices: RESTful APIs, JWT Authentication, MVC, OOP, Agile/Scrum, Unit/Integration Testing, Accessibility Standards (WCAG)

Tools & Systems: Git, Postman, VS Code, JIRA, Debugging/Logging Tools, Telemetry Integration

Security & Compliance: Data Privacy, Role-Based Access Control, Secure API Design

EDUCATION

University of Cincinnati, Ohio — M.Eng., Computer

Science Aug 2024 – Apr 2026 | GPA: 3.52/4.0

Relevant Coursework: Cloud Computing, Distributed Operating Systems, Software Testing & Quality Analysis, Software Architecture

Anna University, Chennai, India — B.E., Computer Science

Sep 2020 – May 2024 | GPA: 3.58/4.0

Graduated with First Class | Coursework: DBMS, OOP, DSA, Operating Systems, Software Engineering

PROFESSIONAL EXPERIENCE

Software Developer — Altech Star Solutions, Chennai, India

June 2023 – June 2024

- Optimized backend services in Java/Python, reducing API response time by 25% and improving system reliability.
- Collaborated with cross-functional teams to define requirements, deploy features, and reduce production incidents by 15%.
- Implemented unit & integration testing, increasing code coverage from 65% to 90% while ensuring compliance with quality standards.
- Participated in sprint planning, backlog refinement, and peer code reviews to improve maintainability and scalability.

Web Developer — In Technet Limited, Hyderabad, India

April 2022 – May 2023

- Built responsive React.js web apps, improving page load time by 40% and ensuring cross-browser/device compatibility.
- Integrated RESTful APIs for real-time data updates, boosting user engagement metrics by 12%.
- Applied accessibility guidelines to improve usability for all users.

KEY PROJECTS

Retrieval-Augmented Generation (RAG) Chatbot — Python, LangChain, Pinecone

- Built a RAG-based chatbot integrating vector search with Pinecone, improving retrieval accuracy by 30% compared to baseline LLM responses.

LLM Fine-Tuning & Deployment — Python, Hugging Face Transformers, Azure ML

- Fine-tuned a GPT-2 model on domain-specific text, achieving a 12% higher BLEU score and deploying it on Azure ML with telemetry tracking.

Telco Customer Churn Prediction — Python, scikit-learn

- Developed churn prediction model with 88% F1-score, applying feature selection to reduce training time by 30%.

Eye Disease Detection — Flask, TensorFlow/Keras

- Designed CNN/ResNet models achieving 85%+ accuracy; deployed on Flask app with secure JWT authentication for real-time predictions.

AI Agent for Task Automation — Python, LangChain Agents, OPENAI API

- Developed a multi-tool AI agent for automating workflows such as data extraction and email drafting, reducing task completion time by 25%.

Model Context Protocol (MCP) Implementation — Python, FastAPI, WebSockets

- Implemented MCP-based communication layer for multi-model orchestration, improving cross-model collaboration efficiency by 20%.

Hotel Management System — Node.js, MongoDB, Bootstrap

- Fullstack web app with role-based authentication and real-time booking; deployed with optimized backend performance.

Containerized Text Analysis — Docker, Kubernetes

- Built and deployed a Python-based text analysis pipeline orchestrated via Kubernetes on Minikube.

CERTIFICATIONS

- Honors Diploma in Computer Application — CSC, India
- Advanced SQL Skills — HackerRank
- Complete Full-Stack Web Development Bootcamp — Dr. Angela Yu

ADDITIONAL INFORMATION

- Building Supervisor**, University of Cincinnati Campus Recreation Center – Oversaw facility operations, ensured safety compliance, and coordinated staff.
- Intramural Sports Official**, University of Cincinnati Campus Recreation Center – Facilitated games, enforced rules, and promoted sportsmanship.
- Professional AED & Rescuer Certification**, American Red Cross – Certified in emergency response and first aid.