TANUJ JAY

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Education

Indian Institute of Information Technology and Management, Gwalior — Expected July 2026
Bachelor of Technology in Information Technology — *CGPA : 8.27*

Relevant Coursework

- Data Structures
- Operating System
- OOP
- Database Management
- Computer Networks
- Software Engineering
- Computer Architecture
- Cloud Computing

Experience

Developer – Research Implementation — **Dec 2024 – Apr 2025**

Dermadetect — Homepage — ML-Based Diagnostic Platform

- Built a responsive, interactive React UI with optimized FormData image uploads, cutting request latency by 35%.
- Designed scalable Python/Flask backend serving web and Kotlin apps, securely routing images to ML pipelines and handling 500+ concurrent requests at 99.9% uptime.
- Integrated two ML models per request for real-time predictions (¡200 ms), cutting diagnostic time by 60% with 99% uptime.

Developer – Research Implementation — **May 2024 – Present**

ALLStageNet — Deep Learning-Based Leukemia Classifier

- Developed a stage-wise classification pipeline for Acute Lymphoblastic Leukemia (ALL) using blood smear images.
- Designed AHCSS segmentation (SVM + RGB/HSV/LAB features) to enhance WBC localization and model precision.
- Trained MobileNetV2 on a hybrid dataset (segmented + original images), improving classification and interpretability.
- Achieved 99.96% training and 98.63% validation accuracy over 40 epochs on 6,000+ augmented image samples with the testing accuracy of 99.38% .
- Authoring a high-impact research paper on the pipeline for submission to IEEE TCBB.

Projects

StreamLy - Real-Time Communications | *Node.js, TypeScript, Mediasoup, Kafka, Redis, AWS* — **Aug 2024**

- Developed a scalable real-time platform in Node.js & TypeScript with Mediasoup (C++ core) for one-on-one and group video/audio calls and messaging, built to scale efficiently with event-driven architecture.
- Built a responsive front-end with Next.js, React, ShadCN, and Tailwind CSS, delivering seamless, accessible experiences across devices with server-side rendering and dynamic routing.
- Designed a robust backend with Kafka for event-driven messaging, Redis for fast session management, PostgreSQL + Prisma for structured data, and AWS S3 for media storage, achieving 99.9% uptime under high load.
- Implemented secure JWT-based authentication and containerized deployment with Docker, using Postman for API testing and ESLint/Prettier for production-grade, maintainable code.

OctoWrap - Personalized Mobile Cover Designer | *React, Next.js, Prisma, Clerk, Stripe, Sharp* — **Jan 2024**

- Built a highly interactive product customizer in React and Next.js, reducing page load times by 35% with SSR and client-side optimizations for a seamless, responsive UX.
- Integrated Clerk for end-to-end authentication (signup, login, logout on the frontend and protecting all API routes) and Stripe for secure checkout, using webhooks to fully automate order fulfillment with a 99.9% successful payment rate.
- Engineered a robust image-processing pipeline with Sharp and UploadThing, achieving 100% successful image uploads and 40% faster preview rendering.
- Designed the UI in Figma, enhanced interactivity with Framer Motion and Radix UI, and debugged performance using React DevTools and Next.js profiling to improve responsiveness and accessibility.

Technical Skills

Languages: C++, JavaScript, Python, Java, C, SQL, Bash
Frameworks and Libraries: React.js, Redux, HTML5, CSS3, Tailwind CSS, Bootstrap, Node.js, Express.js, Flask, , Axios
Databases: PostgreSQL, MySQL, SQL Server, MongoDB, Redis, Prisma, Mongoose, pgAdmin
Tools & Platforms: Git, GitHub, GitLab, VS Code, Linux, AWS, Figma, npm, Yarn, Webpack, ESLint, Prettier

Achievements

- Top-performer in Flipkart Grid 6.0 Level 1 (Software Development), showcasing strong algorithmic and coding skills.
- Achieved 1850+ LeetCode rating with 1000+ problems solved, earning the Knight badge.
- Mentored 400+ students across Greater Noida and IIIT Gwalior in web development and core CS subjects (OS, DBMS, OOP).
- Contributed 100+ commits on GitHub over the past year, leveraging GitHub Actions for CI/CD and teamwork.