Hethiskarna Ravi

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EDUCATION

Santa Clara University (GPA: 3.7) Santa Clara, CA
Master of Science in Computer Science and Engineering (STEM) 2024 - 2026
Courses: Artificial Intelligence, Machine Learning, Computer Networks, Advanced Operating Systems, Advanced Web Programming
Anna University (CGPA: 8.5) Tamil Nadu, India
Bachelor of Engineering in Computer Science and Engineering 2020 - 2024
Courses: Machine Learning, Data Structures and Algorithms, Distributed Systems, Computer Architecture, Cloud Computing

EXPERIENCE

SanDisk **California, United States**
Software Engineering Intern Jun 2025 – Sep 2025

- Developed a **RAG** based chatbot using **LangChain**, **FAISS** vector search and transformer embeddings (BGE-M3, Qwen2, DeepSeek-R1) to deliver context-aware responses from large technical document sets with improved accuracy and speed.
- Engineered scalable document ingestion and preprocessing pipelines (PDF, Word, Excel, Confluence pages, SharePoint sync) with custom chunking, semantic reranking and embedding optimization, enabling high-relevance AI-powered search and automation for SSD validation workflows.
- Automated SSD validation workflows by integrating **Python**-based data pipelines, email parsing and test report generation with AI-driven analysis, reducing manual effort and accelerating QA processes.

Frugal Innovation Hub **California, United States**
Software Engineer Oct 2024 – Jun 2025

- Engineered a **Next.js** based admin dashboard with role-based access control and data visualization, enabling faculty to monitor 5+ live student projects in real time and cutting project status tracking time by 40%.
- Deployed AI-driven analytics pipelines using **TensorFlow** + REST APIs to generate predictive insights on project performance and resource needs, enabling data-backed decisions and reducing manual overhead by 30%.

Vibesea **California, United States**
Lead Software Engineer Jun 2024 – Sep 2024

- Led end-to-end development of a flat booking platform for students, architecting a **Node.js** + **MongoDB** backend with JWT/OAuth authentication, **AWS** (S3, EC2, Lambda) deployment and **Firebase** real-time notifications, improving housing search speed by 60% and reaching 500+ active users in the first month.
- Implemented a roommate-matching engine using preference-based filtering with **MongoDB** aggregation pipelines and optimized Node.js APIs, delivering low-latency search across large datasets.

AgamWorks Tech Solutions Private Limited **Tamil Nadu, India**
Software Engineer Nov 2023 – Jul 2024

- Developed a cross-platform hospital appointment app in **Flutter** with real-time scheduling, push notifications and in-app chat, reducing booking delays by 40%.
- Engineered a jewelry e-commerce platform using **Node.js**, **TypeScript**, **Firebase**, and **MongoDB** with secure payments and live inventory sync, supporting 2k+ product updates/day.

SKILLS

Languages: C/C++, Java, JavaScript, Python, Kotlin, Dart, HTML, CSS, SQL, Typescript, GO, PHP, C#
Machine Learning & Data Analytics: Machine Learning, GenAI, LLMs, CNN, NLP, TensorFlow, PyTorch, Statistical Modeling
Frontend Frameworks: React.JS, Flutter, React Native, Redux, HTML/HTML5, CSS/CSS3, Bootstrap, VueJS, Angular, NextJS
Backend Frameworks: Node.js, REST API, JSON, Express, ASP.NET
Databases and Cloud Platforms: MongoDB, Firebase, AWS (S3, EC2, Lambda), MySQL, Azure, PostgreSQL, Docker, Kubernetes
Development Tools & Version Control: Android Studio, Git, Jupyter Notebook, Postman, Linux, VS Code, Jenkins, Confluence, Jira

PROJECTS

CareerNest - AI-powered Career Optimization Platform:

- Developed CareerNest with **React** (**TypeScript**) and **Firebase**, integrating Gemini 2.0 Flash API for streaming AI responses, WebRTC mock interviews and 10+ AI features including resume optimization and job tracking.

Gym Buddy - Personalized Workout and Nutrition Advisor:

- Developed Gym Buddy with a **Flutter** frontend and **Node.js (TypeScript) + MongoDB** backend, integrating APIs for personalized workouts and nutrition.

PozeAI - Real-Time Pose Correction AI:

- Developed PozeAI, a real-time pose correction tool using **TensorFlow** and **CNN**-based models, enabling accurate joint tracking and instant feedback for fitness and rehabilitation.

Deepfake Detection System:

- Designed a CNN-based deep learning model using **PyTorch** and **ResNet** to classify real vs. fake videos through frame-wise feature extraction. Integrated **OpenCV** and **LLMs** for facial manipulation detection, automated reporting, and explainability.

LEADERSHIP AND INVOLVEMENT

- Working as TA for **Computer Networks**, supporting labs and helping students grasp key networking concepts.
- Led the **Toastmasters Club**, driving substantial growth through workshops that improved public speaking skills.
- Assist in teaching mobile app development using **Flutter**, sharing knowledge and practical skills with aspiring developers.