

Sai Rama Balakrishnan

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Summary

Software Engineer specializing in React and TypeScript with experience building scalable, user-facing web applications. Strong foundation in web fundamentals, REST APIs, and end-to-end feature ownership from architecture to UX implementation. Interested in designing and reliable systems that solve high-impact problems.

Skills

- Languages: Python, TypeScript, JavaScript, Java, SQL
- Frontend: React.js, React Native, HTML5, CSS3
- Backend: Node.js, Express.js, REST APIs, Firebase
- AI: LLM integration, Retrieval systems (RAG), Knowledge graphs, Prompt engineering
- Tools: Git, AWS (EC2), Figma

Projects

AskSai – AI Onboarding Knowledge Graph Assistant

Python, LLM APIs, Retrieval Pipelines, Knowledge Graph Modeling

Dec 2025 – Present

San Luis Obispo, CA

- Designed an AI-powered assistant that converts internal training guides into structured knowledge graphs to enable context-aware support
- Implemented LLM-based document ingestion pipeline extracting entities, relationships, and workflows for structured knowledge graphs
- Built embedding-based semantic search to map user queries to relevant knowledge graph nodes and supporting documents
- Defined evaluation metrics to measure answer relevance and retrieval accuracy across common onboarding scenarios

TruthDose – AI-Powered Health Claim Verification Chrome Extension

JavaScript, Python, PubMed API, Semantic Scholar API

Oct 2025 – Present

Santa Barbara, CA

- Built a Chrome extension that evaluates online health claims by retrieving peer-reviewed research via PubMed and Semantic Scholar APIs
- Created a hybrid ranking algorithm combining citation influence and publication recency to compute an interpretable "Truth Score" (0–100%)
- Designed a retrieval-based pipeline to surface relevant research papers and rank them based on contextual relevance and impact metrics

PolyPlannerPro – Full-Stack Academic Planning Web Application

TypeScript, React.js, Java, Figma, Node.js, Jakarta Persistence

Sept 2024 – Aug 2025

San Luis Obispo, CA

- Designed and implemented responsive React interfaces enabling students and faculty to manage academic planning workflows
- Built secure role-based access control (RBAC) across REST API endpoints to support multi-user identity scenarios
- Implemented unit tests to validate core UI logic and ensure reliability of user workflows
- Authored comprehensive technical documentation to enable long-term maintainability and onboarding of future student developers
- Collaborated with a new development team to ensure smooth project handoff and continued iteration after initial deployment

Experience

Student Assistant

Employee and Organization Development (EOD) @ California Polytechnic State University

Feb 2022 – Dec 2025

San Luis Obispo, CA

- Automated repetitive workflows using Power Automate Cloud Flows, improving weekly operational efficiency by 67%
- Redesigned internal web toolkits to improve accessibility and faculty/staff engagement
- Created structured onboarding documentation and training modules to streamline staff ramp-up time

Undergraduate Researcher - Gamified Machine Embroidery

Cal Poly College of Engineering

June 2024 – Oct 2024

San Luis Obispo, CA

- Built a collaborative two-player drawing interface using JavaScript and Paper.js to simplify embroidery design workflows
- Engineered custom brush tools and optimized stitch-density post-processing for physical machine compatibility
- Developed an expressive NPC system that dynamically responded to user design input

Undergraduate Researcher - AI for Search and Rescue

Cal Poly College of Engineering

May 2023 – Dec 2023

San Luis Obispo, CA

- Led development of a real-time React dashboard for Search & Rescue operations, integrating Firebase for live incident data synchronization
- Implemented automated form prefill logic using React hooks to reduce human data-entry errors
- Designed intuitive data visualizations improving usability to support faster operational decision-making in field scenarios

Web Software Development Intern

Avisys Services WLL @ Saudi Telecom Company

Nov 2022 – Dec 2022

Manama, Bahrain

- Developed interactive web-based games in JavaScript to increase customer engagement
- Built and updated Drupal/PHP web components based on client specifications
- Designed a high-fidelity mobile app prototype in React Native to improve user experience

Education

Bachelor of Science, Software Engineering

California Polytechnic State University - San Luis Obispo, CA

Sept 2021 – Dec 2025

Relevant coursework: Data Structures & Algorithms, Systems Programming, Software Engineering, Database Modelling, Design and Implementation, Knowledge Discovery from Data

Extra-curricular activities

Cal Poly South Indian Cultural Club

Co-President

San Luis Obispo, CA

June 2024 – March 2025

- Directed programming and cross-functional operations for a 100+ member cultural org, improving event execution and outreach
- Marketing Director & Co-founder
April 2023 – June 2024
- Built the club's digital presence from the ground up by designing all visual content and liaised with other organizations on campus to provide the best experiences for our members and increase our outreach to others in the Cal Poly SLO