Amit Karthikeyan

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Education

University of California, Santa Barbara — Santa Barbara, CA
Bachelor of Science in Computer Science, Minor in Statistical Science — *Expected Grad Date: June 2027*

- 3.73 GPA - Dean's List

Experience

AutoInvent — Jul. 2025 – Present
Software Engineer — *Remote*

- Architected a RAG pipeline using Google Gemini and vector embeddings to automate legal claim generation, processing unstructured text inputs with less than 2 seconds latency
- Developed a scalable React 18 + Vite front-end with real-time document updates and responsive UI, supporting concurrent editing and smooth navigation across complex patent documents
- Engineered a multi-tenant data layer using Firestore and Cloud KMS, enforcing row-level security policies to ensure strict data isolation for legal compliance

Projects

Mapache | *Go, Python, Docker, React, TypeScript* — Sep. 2024 - Present

- Designed a real-time ingestion service in Go handling 2,000+ events/second with less than 250ms end-to-end latency, utilizing Docker for containerized deployment
- Implemented a SingleStore database schema optimized for time-series data, ensuring zero data loss across 10M+ messages during network intermittency
- Developed a Python-based decoder using vectorized parsing (NumPy) to process binary CAN bus data, reducing CPU overhead by 30% compared to iterative approaches

Factify | *GCP, React, JavaScript, Chrome API* — Jun. 2025 – Dec. 2025

- Shipped a cross-platform Chrome extension in JavaScript with over 1k downloads that fact-checks social media content across Twitter, Instagram, and Facebook using Google Gemini, processing 250+ posts daily
- Optimized API performance by 85% through intelligent request batching, reducing API calls from 5-15+ per post to 1-4 calls using combined analysis techniques and fast-mode processing for text-only content
- Cut LLM token usage by 60–80% with prompt engineering, strict length caps, and structured JSON output
- Integrated Stripe payment processing with webhook handling for Pro subscription management and implemented usage tracking and limits using Chrome storage APIs with daily reset functionality

SlipStream | *JavaScript, Jira, HTML, Forge* — Nov. 2025 – Dec. 2025

- Built an Atlassian Forge app that ingests Confluence comments, maps them to the correct Jira issue, and posts a formatted Jira comment that preserves the original author attribution for end-to-end traceability
- Implemented secure metadata storage and event-driven processing to sync Confluence and Jira in real time, with validation/error handling to prevent misrouted updates and ensure reliable cross-product collaboration

Leadership

Gaucho Racing — Sep. 2024 - Present
Data Science Lead — *Santa Barbara, CA*

- Leading end-to-end telemetry analytics for the UCSB Formula SAE team, building Python/SQL pipelines and ClickHouse-backed dashboards to model lap time, driver performance, and reliability
- Mentoring and delegating work to a team of 15 analysts and delivering data-driven setup and race-strategy recommendations to engineers and drivers

Technical Skills

Languages: Python, SQL, Java, C++, JavaScript, C, Golang, HTML/CSS
Frameworks: React, Node.js, Express, FastAPI, .NET
Developer Tools: Git, AWS, Linux, Jira, Docker, Tableau, GCP, Vite, CI/CD, Agile
Libraries: NumPy, pandas, PyTorch