

Austin Lee

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Senior Software Engineer | GenAI/ML/Data Engineer | System Architect

12+ years of experience in **scalable system design, cloud engineering, and full stack development**. Expert in building **GenAI, ML, and AI-powered solutions with Python, Java, C#, JavaScript, and Node.js**. Architected and deployed robust infrastructure and applications across **healthcare, fintech, and enterprise** platforms. Proven leader in **technical mentorship, cross-functional collaboration, and strategic innovation**.

Core Skills

Languages & Frameworks: JavaScript (ES6/7), TypeScript, Python, Java, C#, Rust, PHP, Ruby on Rails, .NET, HTML5, CSS3, SASS/LESS

ML & GenAI: OpenAI, Anthropic Claude, LLaMA, BERT, Hugging Face, Transformers, LangChain, RAG, vector DBs

Frontend Technologies: React, Redux, Hooks, Angular, Vue, Material UI, Bootstrap

Backend & API Development: Node.js, Django, RESTful APIs, GraphQL, Microservices, Serverless Architectures

Cloud & Infrastructure: AWS (Connect, Lambda, API Gateway, DynamoDB, SQS, SNS, CloudFormation), GCP, Azure, Docker, Kubernetes, Terraform

DevOps & Tooling: Jenkins, NPM

Databases & Search: PostgreSQL, MongoDB, DynamoDB, Elasticsearch

Testing & QA: Jest, Cypress, Selenium, Test-Driven Development (TDD)

E-commerce & Platforms: Shopify

Education

University of Southern California | Los Angeles, CA
Bachelor's Degree in Computer Science (2009 - 2013)

Professional Experience

Senior Software Engineer, GenAI Architect (Contract) – Circle Medical, San Francisco, CA Jan 2024 - May 2025

- Led architecture and engineering of AI-powered clinical tools, focusing on production-grade GenAI, voice agents, and scalable microservices in a HIPAA-compliant environment.
- Built and deployed a custom voice agent using **Pipecat**, enabling patient triage via natural conversation. Engineered real-time audio streaming and NLP processing pipelines to extract structured medical insights from free-form speech.
- Developed RAG pipelines using **LangChain** and **sentence-transformers**, integrating with **OpenAI GPT-4** for context-aware summarization of patient history. Embedded semantic search across patient records with **Pinecone** and **FAISS**.
- Designed and implemented modular, event-driven microservices for GenAI integration. Used **AWS Lambda** and **API Gateway** to handle real-time voice and text requests with scalable, fault-tolerant routing logic.
- Architected a secure, cloud-native GenAI infrastructure compliant with **HIPAA** using **Terraform**, **AWS IAM**, and **CloudWatch**. Integrated **SageMaker endpoints** for model orchestration and compliance auditing.
- Built real-time logging, tracing, and feedback tools to monitor GenAI and voice agent performance. Implemented usage dashboards and automated evaluation pipelines for continuous improvement of voice interactions.
- Worked closely with medical experts, designers, and ML engineers to refine user prompts, iterate on clinical UX, and tune voice AI logic for patient safety and reliability.
- Mentored engineers in Python, serverless architecture, and LLM integration. Set code quality standards and CI pipelines using **GitHub Actions** and **pytest** to ensure reliable, testable GenAI workflows.

Senior Full Stack Engineer, GenAI Lead (Hybrid Contract) – PayPal, San Jose, CA Jan 2022 - Dec 2023

- Developed robust CMS and backend architecture using **Java**, **C#**, **Node.js**, and **Python/Django**, improving platform reliability and enabling agile delivery.
- Integrated **GenAI capabilities** (OpenAI, Claude) into internal support systems, enabling automated responses, summarization, and knowledge base augmentation.
- Implemented **RAG architecture** using **LangChain** and **vector databases**, reducing documentation search time and enhancing customer support operations.
- Refactored legacy codebases into **TypeScript**, improving code maintainability, reducing defects, and facilitating easier onboarding of new engineers.

- Created microservices with **AWS Lambda**, **API Gateway**, and **DynamoDB**, resulting in improved modularity, fault tolerance, and cost efficiency.
- Developed and optimized frontend interfaces using **React** and **Angular**, applying SSR to improve load time, SEO, and user satisfaction.
- Championed infrastructure as code and implemented **Terraform** for consistent cloud deployments across multiple environments.
- Achieved **40% improvement** in support ticket response time and a **15% reduction** in cloud operating costs by introducing AI and architectural optimizations.

Full Stack Developer (Remote Contract) – Synopsys, Sunnyvale, CA

Apr 2020 - Dec 2021

- Spearheaded the development of internal SaaS tools for cloud-based analytics using **FastAPI**, **Python**, **Node.js**, and **Azure**, ensuring secure and scalable deployments.
- Integrated **GraphQL** and **Elasticsearch** into existing systems, accelerating data queries and improving the user data exploration experience.
- Designed APIs and microservices for internal tools with **Nest.js**, **Java**, and **C#**, optimizing system performance by leveraging asynchronous patterns.
- Built ML-enhanced workflows for document classification and metadata extraction, accelerating internal review processes.
- Optimized codebases for performance and implemented caching layers that led to a **35% improvement** in API response time.
- Provided strategic input on GenAI proof-of-concept development for automated code suggestions and analysis.
- Facilitated engineering workshops on **ML integration**, **API security**, and **modern JS frameworks**.
- Drove DevOps best practices through automation, testing pipelines, and CI/CD processes using Jenkins and GitHub Actions

Full Stack Developer (Remote Full-time) – adMixt, Austin, TX

Sep 2016 - Mar 2020

- Developed **Fraud Fighter** and **Social Media Auto Poster** tools utilizing **Python**, **Node.js**, and **AWS**, reducing abuse by 20% and improving engagement by 30%.
- Created **serverless microservices** and optimized cloud costs using **AWS Lambda**, **S3**, and **DynamoDB**, reducing latency and increasing throughput.
- Modernized frontend applications by migrating from **Backbone.js** to **React**, improving performance and maintainability.
- Designed backend integrations for image processing with **ImageMagick** and developed custom automation APIs to streamline supply chain processes.

- Improved SQL performance by redesigning denormalized schemas on **AWS RDS**, leading to a **6x increase** in data query performance.
- Introduced automated unit and integration testing with **Cypress**, **Selenium**, and implemented CI pipelines to ensure code quality.
- Collaborated with data analysts to deliver ML-powered campaign optimization tools for clients.
- Trained team members on modern JavaScript, cloud architecture, and data-driven application development.

Full Stack Developer – ReynSpooner, Los Angeles, CA

Apr 2013 - Aug 2016

- Built a full-featured e-commerce platform using **Node.js**, **C#**, **React**, and **Python/Django**, improving user experience and boosting conversions by 10%.
- Migrated legacy systems to **React single-page applications**, enhancing frontend performance and user satisfaction.
- Developed backend systems and payment APIs, integrating secure, PCI-compliant processing with modern UI/UX practices.
- Designed a basic product recommendation engine prototype using **collaborative filtering**, improving customer personalization features.
- Strengthened test coverage with **Jest**, **Cypress**, and **Selenium**, and implemented continuous testing strategies using TDD principles.
- Reduced page load times by 15% through code optimization and image delivery enhancements.
- Partnered with cross-functional teams to lead redesigns that aligned with evolving brand strategies.
- Provided guidance and documentation to support future enhancements and platform scalability.