

Erick Melo

Senior Software Engineer

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Summary

Senior Software Engineer with over 9 years of experience building scalable backend systems, data infrastructure, and AI-powered applications across both high-growth startups and enterprise environments. Strong track record in full-stack development, RAG/LLM pipelines, and microservice architecture. Adept at owning projects end-to-end in startup settings, while bringing engineering discipline and system-level thinking from enterprise experience. Passionate about developer tools, clean design, and shipping impactful products.

Work Experience

LlamaIndex

Senior Software Engineer

Jul 2023 – Present

- Developed high-performance document ingestion and indexing pipelines using LlamaIndex, enabling robust RAG solutions for enterprise clients.
- Built custom vector indices and metadata filters using Faiss and Weaviate, improving query efficiency and context accuracy.
- Enhanced developer experience by contributing to SDKs, notebooks, and example apps widely adopted in the open-source community.
- Implemented evaluation tools for retrieval quality benchmarking, helping internal teams tune chunking and prompt strategies.
- Collaborated cross-functionally with ML engineers and product teams to support diverse use cases across healthcare, legal, and finance domains.
- Designed modular APIs for embedding providers and storage backends to support extensibility.
- Assisted in infrastructure improvements, including CI/CD workflows, test coverage, and observability.
- Maintained consistent release cadence in a fast-moving product environment.

Skills: Python, TypeScript, LlamaIndex, Faiss, Weaviate, OpenAI APIs, RAG pipelines, Vector Search, Prompt Engineering, GitHub Actions, Pytest, CI/CD, Elasticsearch

BigBro AI

Sep 2020 – Jun 2023

Senior Software Engineer

- Led the design and implementation of a computer vision platform for real-time sports analytics.
- Developed microservices in FastAPI, Node.js, and gRPC to process and stream live match data.
- Integrated YOLOv5 and MediaPipe to track ball movement and player pose with high precision.
- Built data pipelines with Kafka and Redis, enabling sub-second telemetry updates to visual dashboards.
- Created interactive front-end tools using React for event review, annotation, and performance analysis.
- Designed REST and WebSocket APIs for external clients and internal tooling.
- Deployed core services to AWS Lambda, Docker, and Kubernetes for flexible scaling.
- Established automated CI/CD pipelines and test coverage using GitHub Actions and Pytest.
- Collaborated closely with product and ML teams to iterate quickly on features for early customers.

Skills: Python, TypeScript, JavaScript, FastAPI, Node.js, React, YOLOv5, OpenCV, MediaPipe, Kafka, Redis, WebSocket, gRPC, AWS Lambda, Docker, Kubernetes, GitHub Actions, Pytest

Urban Influence

Mar 2018 – Aug 2020

Software Engineer

- Rebuilt core systems of a marketing automation SaaS using Vue.js, TypeScript, and Python.
- Transitioned platform from monolith to microservices, improving reliability and deployment velocity.
- Developed campaign builder tools and real-time analytics dashboards with Redis and WebSocket integration.
- Created integrations with Salesforce, HubSpot, and major social platforms via REST APIs.
- Implemented email testing tools and A/B campaign optimization, increasing client engagement by 15%.
- Supported real-time tracking and alerting infrastructure, enhancing client insight into campaign performance.
- Led infrastructure automation with Docker and CI/CD deployment pipelines on AWS.
- Introduced end-to-end testing and code quality standards across engineering teams.
- Mentored junior developers and supported sprint planning in a cross-functional environment.

Skills: Python, TypeScript, Vue.js, FastAPI, Redis, WebSocket, REST APIs, Salesforce, HubSpot, AWS, Docker, CI/CD, Cypress, A/B Testing, Marketing Automation

Google

Feb 2015 – Feb 2018

Software Engineer

- Built internal APIs and tools supporting the Google Ads infrastructure, focusing on reliability and scale.
- Developed Python- and Go-based services for ad validation and campaign diagnostics.
- Helped design monitoring dashboards using Prometheus and Grafana for real-time system observability.
- Contributed to large-scale ETL pipelines for data validation and reporting.
- Collaborated with SRE and ML teams to integrate predictive bidding experiments into production systems.
- Participated in regular on-call rotations and incident response drills to maintain high service availability.
- Advocated for improvements in test coverage, deployment practices, and internal documentation.

Skills: Python, Go, REST APIs, gRPC, Prometheus, Grafana, BigQuery, Kubernetes, Internal Tools, Monitoring Systems, Campaign Diagnostics, ML Integration

Education

UCLA (University of California, Los Angeles)

Bachelor of Science in Computer Science

Graduated: 2014

Skills

Languages: Python, Go, TypeScript, JavaScript, SQL

Frameworks: FastAPI, Flask, Django, Node.js, React, Vue.js, GraphQL, WebSockets

Infrastructure: AWS, GCP, Docker, Kubernetes, GitHub Actions, Terraform

Data & ML: PostgreSQL, Redis, Kafka, Faiss, Pinecone, Elasticsearch, OpenCV, YOLOv5

LLM & RAG: LlamaIndex, LangChain, OpenAI, RAG pipelines, vector search, embedding strategies

Testing & Monitoring: Pytest, Cypress, Prometheus, Grafana, CI/CD pipelines