



# RYAN ZERNACH AI/ML Engineering Leader (Full-Stack)

Ryan@Zernach.com • Archlife LLC • 1099 Consultant • LinkedIn • Github • 100% Remote

## HIGHLIGHTS

- Strategic AI/ML engineer with 10+ years of experience: AI infrastructure, LLMops, MLOps, DevOps, Mobile Apps
- Shipped back-end & front-end of CellarChat™ to 1M+ members: fine-tuning, tool-calling, & evaluation pipelines
- Awarded Top 10 of 10,000 Global Projects (Top 0.1%) with AI Voice Assistant: 2024 NASA Space Apps Challenge
- Boosted mobile app ratings to 4.9★ (10k+ reviews) and lifted recurring revenue by 25%+ with Apple Pay subs
- Deployed agentic RAG chatbots on production workloads, including observability and analytics dashboards
- Built low-latency ML inference services & zero-downtime PostgreSQL migrations across containerized K8s

## TECH STACK

- LLMops / RAG / MCP / Voice Agents / Evaluations
- GenAI / OpenAPI / Multi-Agent / Semantic Kernel
- Machine Learning Pipelines / Computer Vision
- Python / PyTorch / PySpark / ETL / TensorFlow
- AWS / Azure / GCP / CloudOps / SecurityOps
- DevOps / CI/CD / Docker / Kubernetes (K8s)
- Vector Databases / SQL / GraphQL / NoSQL
- Codex / Copilot / Claude / Aider / BMAD
- WebSockets / Flask / FastAPI / Express / Back-End
- Distributed Queues / RabbitMQ / SQS / Cron Jobs
- Observability Dashboards / Admin Visualizations
- React Native / iOS / Android / Swift / Kotlin / Expo
- TypeScript / React / Redux / Next / Vue / Streamlit
- IMAP / POP / Email Templates / Push Notifications
- SEO / Analytics / Marketing Campaign Automations
- Apple Pay / Subscriptions / Payouts / IAP Webhooks

## EXPERIENCE

### AI / ML Engineering Consultant • Archlife Industries LLC • Self-Employed • 100% Remote

2020 – Present

- Automated LLMs to advertise on Reddit by reading posts & commenting on the best ones
- Deployed agentic endpoints for facilitating merchant onboarding & inventory management
- Delivered three chatbots using RAG, tool-calling, voice-powered commands, & interactive maps
- Built end-to-end MLOps pipelines to enable low-latency inference and continuous model updates
- Architected distributed systems with Docker/Kubernetes, DNS, load balancing, & secure orchestration
- Engineered PostgreSQL pipelines and data infrastructure to apply patches and updates without downtime
- Published multiple social networks & eCommerce marketplaces that are deployed across iOS/Android/Web
- Engineered observability admin dashboards for marketing insights, analytics, API logs, & database management

### AI Engineer / Mobile Engineer • CellarTracker • 100% Remote, Seattle

2023 - 2025

- Wrote both the front-end & back-end of CellarChat™ LLM chatbot for 1M+ active members
- Architected OpenAPI pipeline, fine-tuning pipeline, LLM evaluations, and observability systems
- Integrated intelligent ML-powered recommendations to personalize new wine discovery at scale
- Helped to boost the new mobile app's ratings to 4.9★ average, with 10,000+ verified 5-star ratings
- Embedded Apple Pay subscriptions in the React Native app for generating 25%+ recurring revenue
- Implemented barcode scanning, activity feed posts, recommended wines, and advanced image search
- Streamlined the Redux store for fast, efficient, & persistent global state management between sessions
- Rebuilt the React Native app's analytics implementations for tracking critical user interactions & behaviors

### Back-End & React Native Developer • Demosphere • 100% Remote, Washington D.C.

2022 - 2023

- Transitioned entire codebase from Javascript to Typescript for increased long-term maintainability
- Improved computational and network efficiencies by reducing load times and runs to the database
- Evaluated Google Crashlytics to reduce edge case crashes and improve p95 stability and performance
- Iterated on group chat features, push notifications, and native calendar sync to improve user satisfaction

## Back-End & React Native Developer • FinEquities • 100% Remote, Miami

2021 – 2022

- Securely integrated third-party APIs, including: connecting bank accounts & buying stocks/crypto
- Wrote the data-visualization logic for viewing and comparing stocks/crypto performance over time
- Built social network features, such as chat, user profiles, posts, likes, emojis, and threaded comments
- Constructed core mobile app functionality, including: copy portfolio, trending investors, & suggested stocks
- Custom-built a companion admin web dashboard to monitor mobile app performance & infrastructure health

## Web Developer • instaSod.com, CustomizedChristmasLights.com • 100% Remote, Atlanta

2015 – 2019

- Built PHP websites & marketed local online businesses to generate \$500k+ of gross sales in three years
- Planned & founded two local small businesses: landscape design/contracting & professional christmas lighting
- Engineered user experience of uploading videos to website, survey questions, & receiving PDF pricing proposal

## EDUCATION

### Data Science & Machine Learning

2020 – 2021

Vanderbilt University • 100% Remote • Nashville, TN

- As a helpful Teaching Assistant, I gained exposure to hundreds of diverse machine learning applications
- Taught 900+ college students machine learning, Python, API's, TypeScript, HTML, dashboards, & databases
- Managed a busy schedule of remotely teaching 30+ university students per week for ~60 minutes per lesson

### Data Science & Machine Learning

2019 – 2020

BloomTech (Funded by Y Combinator) • 100% Remote • San Francisco, CA

- Deploying Supervised/Unsupervised Machine Learning Models, Recommendation Engines
- Computer Vision (CV) Models, Time-Series Forecasting, Natural-Language Processing (NLP) Pipelines
- Python, SciKit-Learn, PySpark, Data Engineering, PostgreSQL Databases, Back-End API's (Flask / FastAPI)

### Computer Science & Mathematics

2011 – 2012

Georgia Southern University • Statesboro, GA

- Calculus, Statistics, R, Data Structures, Programming Principles, Linear Regression, Visual Basic, C, C++

## CERTIFICATIONS & AWARDS

- **2024:** NASA Space Apps Hackathon Winner
- **2022:** Ethereum Blockchain Developer
- **2020:** Mosh React Native Academy
- **2020:** TensorFlow Developer
- **2020:** Machine Learning Pipelines (DataRobot)
- **2020:** Google Cloud Platform Developer
- **2019:** AWS Microservices Practitioner
- **2019:** Y Combinator Startup School

## PORTFOLIO WEBSITE

