RYAN ZERNACH

🏛️ **AI Infrastructure** 🤖**MLOps** 💬**LLMOps** ⚙️**DevOps** ☁️**CloudOps**

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SUMMARY

I'm Ryan, a collaborative team member & leader who enjoys simplifying architectures with every change and shipping agentic automation workflows using AI, LLM's, ML, GenAI, and audio/video. When building front-end & back-end solutions, I measure site uptime, infrastructure latency, accuracy, $/task, and $/quality. I've scaled apps to millions of users and have built durable infrastructure with an emphasis on observability, reusability, reliability, cost-efficiency, speed, and security. My background includes **10+ total years of Engineering, 7+ years of Python, and 6+ years of TypeScript**

TECH STACK

- LLM Ops / Semantic Kernel / LangChain / AI SDK
- OpenAPI / Agents / MCP / Voice / AI Evaluations
- Machine Learning Pipelines / Computer Vision
- Python / PyTorch / PySpark / TensorFlow / ETL
- DevOps / CICD / DNS / Docker / Kubernetes
- CodeGen / Codex / Copilot / Claude / Aider
- Azure / AWS / GCP / CloudOps / SecOps
- Databases / SQL / GraphQL / NoSQL

- SEO / Analytics / Marketing Campaign Automations
- IMAP / POP / Email Templates / Push Notifications
- WebSockets / Flask / FastAPI / Express / Back-End
- Distributed Queues / RabbitMQ / SQS / Cron Jobs
- React Native / iOS / Android / Swift / Kotlin / Expo
- TypeScript / React / Redux / Next / Vue / Streamlit
- Apple Pay / Payments / Subscriptions / Checkout
- Admin & Operations Dashboards / CLI / Bash

EXPERIENCE

AI / ML Engineering Consultant · **Archlife Industries Software** *(100% Remote)*   *2020 – Present*
- Automated LLM's 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
- 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 four social networks & two eCommerce marketplaces that are deployed across iOS/Android/Web
- Engineered observability admin dashboards for marketing insights, analytics, API logs, & database management

AI 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 code in the React Native mobile app to generate significantly higher revenue
- Implemented barcode scanning, activity feed posts, recommended wines, and advanced image search
- 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 & performance
- Iterated on group chat features, push notifications, & native calendar sync to improve user satisfaction

Back-End & React Native Developer · **FinEquities** *(100% Remote, Miami)* *2021 – 2022*
- Integrated various APIs, including: bank accounts, stocks, & cryptocurrencies
- Wrote the data visualizations logic for viewing the performance of stocks & crypto
- Built social network features: chat, user profile, posts, likes, emojis, and comments
- Constructed core functionality: copy portfolio, trending investors, & suggested stocks
- Custom-built a companion admin web dashboard to monitor the mobile app's performance

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

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EDUCATION

Computer Science & Mathematics *2011 – 2012*

Georgia Southern University • Statesboro, GA
- Calculus, Statistics, R, Data Structures, Programming Principles, Linear Regression, Visual Basic, C, C++

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, Audio Processing, Natural-Language Processing (NLP) Pipelines
- Python, SciKit-Learn, PySpark, Data Engineering, PostgreSQL Databases, Back-End API's (Flask / FastAPI)

Data Science & Machine Learning (Teaching Assistant) *2020 – 2021*

Vanderbilt University, EdX • 100% Remote • Nashville, TN
- Through the act of teaching, I gained exposure to hundreds of 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

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CERTIFICATIONS & AWARDS

- **2019**: *Y Combinator Startup School*
- **2019**: *AWS Cloud Practitioner*
- **2020**: *Google Cloud Developer*
- **2020**: *TensorFlow Developer*
- **2020**: *Machine Learning Pipelines*
- **2020**: *Mosh React Native Academy*
- **2022**: *Ethereum Blockchain Developer*
- **2024**: *NASA Hackathon Finalist (Top 1%)*

PORTFOLIO WEBSITE