


Jacob MacInnis


Director of Engineering |
Cloud & AI


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Hard Skills



TypeScript Python Node.js React



Redux TensorFlow PyTorch scikit-learn



LangChain Amazon Web Services GCP Azure

Education

Certificate, Machine Learning
Specialization
Stanford University

Software Engineering
Immersion Program
Thinkful

B.A. Child/Adolescent Psychology
Eastern Nazarene College

Summary

Hands-on engineering leader with deep experience in architecture, development, and technical leadership. Proven track record of designing and deploying scalable, cloud-native applications. Adept at leading engineering teams, fostering innovation, and optimizing processes.

Completed numerous AI/ML certifications from Stanford, DeepLearning.AI, Duke, and Google, combining strong theoretical foundations with practical implementation. Built and deployed models for image recognition, classification, NLP, transfer learning, RAG, and AI agents. Experienced with TensorFlow, PyTorch, scikit-learn, LangChain, and LangGraph.

Published 50+ technical articles on Medium covering TypeScript, Python, data structures, algorithms, and applied machine learning.

Notable ML/AI Certifications and Coursework

- **MCP: Build Rich-Context AI Apps:** DeepLearning.AI 🇺🇸 + Anthropic
- **AI Agents in LangGraph:** DeepLearning.AI 🇺🇸 + LangChain
- **LangChain for LLM and RAG-based Application:** DeepLearning.AI 🇺🇸 + LangChain
- **Machine Learning in Production:** DeepLearning.AI 🇺🇸
- **Managing Machine Learning Projects:** Duke 🇺🇸
- **Production Machine Learning Systems:** Google 🇺🇸
- **Machine Learning Specialization:** Stanford 🇺🇸 + DeepLearning.AI 🇺🇸
- **Machine Learning with Python:** freeCodeCamp (🇺🇸)
- **Machine Learning - Tensorflow.js:** Udemy 🇺🇸
- **Data Analysis with Python:** freeCodeCamp (🇺🇸)
- **Introduction to Large Language Models:** Google 🇺🇸
- **Artificial Intelligence and Business Strategy** - LinkedIn 🇺🇸

Selected Machine Learning Projects

MCP App – *Model Context Protocol Server Exploration with LangChain and LangGraph*
Explored MCP-like orchestration: (1) autonomous LangChain app using reactive tool workflows, and (2) LangGraph deterministic routing with MCP-inspired control loop.

R2AI – *LangGraph-Based Agent with Intent Routing*
Developed a LangGraph agent that routes user intent across tools (search, math, code). With visual execution tracking. Emphasizes deterministic reasoning paths.

Agent Cortex – *LangChain Agent with Tools and Memory*
LangChain AI Agent with short-term memory and FAISS-based long-term vector memory. Tools include RAG, internet search reasoning, with LLaMA/Mistral or OpenAI.







RAG API – *documentation input and Retrieval Augmented Generation API*
Production-ready RAG backend with FastAPI, SentenceTransformers, and FLAN-T5.

Summit Mind – *Meeting Summarizer with Fine-Tuned T5*
Trained and fine-tuned deep neural networks small and base T5 models on SAMSum. Deployment with Docker, GCP Artifact Registry and GCP CloudRun

Folia-Vision – *Plant Image Classifier with Transfer Learning*
TensorFlow/Keras CNN to classify plant species using Hugging Face datasets. Applied data augmentation and fine-tuned a pretrained model. Deployed via GCP Cloud Run.

Career Compass – *Employment Prediction API*
Supervised binary classification built with TensorFlow/Keras deep neural network.

Leadership & Architecture

- **AWS Cloud Solutions Architect:** 
- **Cloud Architecture: Advanced Concepts:** LinkedIn 
- **Software Architecture: From Developer to Architect:** LinkedIn 
- **Transitioning from Manager to Leader:** LinkedIn 
- **Software Architecture Foundations:** LinkedIn 
- **Agile Project Leadership:** LinkedIn 
- **AWS Serverless APIs and Apps:** Udemy 

Other Hard Skills

- Serverless Framework
- Firestore DB, PostgreSQL, Mongo
- Pandas, NumPy, Matplotlib, Seaborn
- Data Visualization & Data Analysis
- Data Cleaning & Wrangling
- Preprocessing

Professional Experience

Director of Engineering - OneView Commerce

Remote/Boston

Jun 2022 - Present

- Implemented global-scale development of cloud architecture supporting 4,000+ retail stores, processing 1M+ daily transactions.
- Implemented serverless architecture using AWS (Lambda, SQS, SNS, API Gateway), GCP Functions, and Firestore DB.
- Directed legacy migration to Firestore, leveraging DAO patterns & feature flags.
- Optimized deployment processes, reducing downtime from days to 1-2 hours with a 99% success rate.
- Oversee hiring, mentoring, and performance management of engineers across multiple teams.

Engineering Manager at OneView Commerce

Remote/Boston

Mar 2021 - June 2022

- Architected and led development on a globally deployed Application, enabling order, pick, and pack operations for retail. Designed a scalable, cloud-native backend using AWS, GCP, and Firestore, with a React/Redux frontend
- Engineered a multicloud backend monorepo by creating a cloud-agnostic platform, enabling AWS and Azure deployments, with future support for GCP
- Supervised teams of engineers, leading development efforts in React, Node.js, TypeScript, and serverless architectures.
- Mentored engineers, enhancing their soft and hard skills, product knowledge and ability to thrive in fast-paced environments and high pressure situations
- Communicate architectural concepts and guidelines to development teams and provide continuous knowledge transfer on the use of the OneView platform

Team Lead, Software Engineering at OneView Commerce

Remote/Boston

Jul 2020 - Mar 2021

- Developed OneViews platform user management infrastructure similar to AWS IAM's users, roles, policies and permissions using AWS Cognito user pool
- Led overhaul dev team meetings by introducing structured agendas, focused discussions, action items —improving cross-team alignment and momentum.
- Designed and implemented scalable backend services to ensure product delivery using AWS Lambda, S3, API Gateway, and Firestore.
- Led a scrum team to develop enterprise headless and SaaS applications

Full Stack Software Engineer at OneView Commerce

Remote/Boston

Aug 2019 - Jul 2020

- Developed a cloud agnostic integration layer, enabling faster development and reducing tech debt with single codebase for multi-cloud deployment
- Designed a wrapper interface that abstracted common cloud service concepts, dynamically mapping to AWS, Azure, and future cloud providers.

- Addressed security vulnerabilities from penetration tests, including XSS, function-level access controls. Improved API security key management

Full Stack Software Engineer at Insight Global
(contracting with OneView Commerce)
Feb 2019 - Aug 2019

Remote/Boston

- Built a curbside pickup solution for Kroger, enabling online purchases to be picked up curbside at Kroger or at Walgreens stores
- Developed SaaS and headless POS features, including UPC2, GS1 barcode handling, and mobile usb scanning
- Transformed enterprise business requirements into agile deliveries, breaking down epics into sprint sized, vertical sliced increments

Other Experience

Function Earth (self start-up)
Nov 2018 - April 2019

Remote/Boston

- Built cross-platform React Native mobile applications for iOS and Android.
- Integrated Node.js backend with MongoDB and RESTful API endpoints.

Developer Apprentice at Thinkful
May 2018 - Nov 2019

Remote/New York

- Completed over 1,600 hours of intensive full-stack software engineering
- Deployed mobile first responsive web apps with Node, Express RESTful API, React.js and Redux clients, and Postgres and Mongo Databases
- Applied Computer Science foundations to implement complex data structures and optimize algorithms for performance in multiple projects

Founder & President at E-Prime Sourcing
May 2015 - July 2018

Salem, MA

- Founded and scaled E-Prime Sourcing from a solo operation to a commercial warehouse, generating \$1.29M+ in sales.
- Secured a 3M distribution deal, expanding across Amazon, Walmart, and eBay.
- Achieved \$857K+ in revenue in one year, fulfilling 41,357 orders.
- Built Shopify e-commerce website with 350+ products and multiple revenue streams, listing 800+ products on Amazon, 300 on eBay, and 120 on Walmart