

Bradley Arsenault

Full-Stack AI Engineer & Architect

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Seasoned full-stack software engineer with over a decade building products and solutions using AI and ML technology. Expert at building high quality, reliable, and robust software systems. A deep technical problem solver who has a knack for solving the hard challenges.

Skills

Software Architecture
Deep Learning & Neural Networks
Machine Learning
Generative AI
Python
ReactJS
Prompt Engineering
Test Driven Development
Docker Containers
Linux Systems
Google Cloud
Deployment & Devops Pipelines
AWS
Technology Strategy
Typescript
PyTorch

Work History

2023-07 - Current

Full-Stack AI Engineer & Architect

Prospera Labs, Toronto, ON

- Built Prospera's core conversational AI Agent platform from the ground up, launching to market and iterating rapidly based on extensive real-world user feedback.
- Designed and deployed 12 production-ready AI Agents across sales, Q&A, risk assessment, and healthcare use cases, integrating with 8+ third-party APIs.
- Engineered real-time voice AI interactions with **~1 second average response latency**, achieving natural conversational flow.
- Developed innovative automated quality control workflows, reducing time-to-stable production deployment for client AI Agents while maintaining low error rates.
- Led and mentored a small engineering team, successfully upskilling a frontend developer into backend and AI engineering.
- Managed all technical operations, including infrastructure design, cloud architecture, data pipelines, and agile delivery processes.
- Built on Python, ReactJS, OpenAI, Anthropic, MongoDB, Docker, Google Cloud

2020-05 - 2024-07

Independent AI/ML Engineer & Technical Consultant

Bradley Arsenault AI Services

- Delivered AI-powered solutions for startups and SMEs across several part time and fulltime contracts, including technology for Summatti that was later instrumental in their acquisition
- Developed AI resume rewriting engine for LNine, reducing candidate placement time by **over 90%**, significantly accelerating hiring cycles.
- Built and productized AI prototypes for clients, including receipt processing, document parsing, and process automation.
- Created and deployed deep learning models and full-stack applications using Python, ReactJS, and cloud platforms, enabling clients to launch new capabilities quickly.

2023-01 - 2023-05

AI Engineer

Checksum.ai, San Francisco

- Built deep learning models to simulate realistic user behavior on web apps, enabling automated test generation from recorded session data.
- Designed stochastic search algorithms that **improved test coverage by ~20%** over baseline, increasing defect detection rates.
- Contributed prototypes that were deployed in production, contributing to early product success and momentum

2022-09 - 2022-12

Backend Software Engineer

Slash Financial, San Francisco

- Developed CI/CD and DevOps pipelines that reduced production bug incidence by **over 50%**, improving reliability for end users.
- Led architecture modernization initiatives, boosting maintainability and scalability.
- Assisted in development of APIs and new features

- Drove a cultural shift among junior engineers toward quality-focused development, improving defect prevention practices across the team.

2021-06 - 2022-06

Lead Software Engineer

Credit Sesame, Mountain View, United States

- Directed a major codebase refactoring of the banking platform, reducing technical debt and increasing development velocity by **33%** within six months.
- Implemented diagnostic tooling for customer support, cutting issue resolution time by **50%** for complex cases.
- Advocated and implemented engineering best practices, leading to **20% fewer defects** and **15% faster release cycles**.

2020-01 - 2021-02

Full Stack AI & ML Engineer

Kwola, Toronto, Ontario

- Built the Kwola product from scratch, including reinforcement learning algorithms that achieved **~40% frontend code coverage** during automated software testing.
- Designed easy to use web-frontend for automated testing
- Engineered GCP-based infrastructure and DevOps pipelines, ensuring rapid deployment and scalability.
- Incorporated customer feedback to target deeper edge-case bug detection, improving perceived value to clients.

2018-11 - 2020-05

Full Stack Machine Learning Engineer

SwiftlyAI, Toronto, Ontario

- Developed an AI valuation engine that predicted real estate cap rates to **within 1% accuracy** and parsed financial/lease documents with near-perfect precision
- Built a full product around the AI valuation engine
- Designed ML infrastructure and deployment pipelines, reducing time-to-production to mere minutes.

2016-07 - 2019-12

Principal Machine Learning Consultant

Electric Brain, Toronto, Ontario

- Designed and delivered custom ML and deep learning systems for multiple industries, including projects later acquired or scaled into major products.
- Automated Scotiabank Treasury's inter-bank account reconciliation process, eliminating manual effort and reducing processing time dramatically.
- Built AI prototypes for StanAI, contributing to their later market success.
- Managed multi-stakeholder projects with subcontractors, ensuring timely and high-quality ML system delivery.

Education

2023-12

Master of Science: Software Engineering

Arizona State University - Tempe, Arizona

2008-01 - 2012-01

Bachelor of Commerce: Entrepreneurship

Dalhousie University - Halifax