

# Jason Aloi

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## Professional Summary

**Senior AI Engineer and Technical Leader** with 25+ years of experience architecting and developing **scalable** software solutions. Specialized in building production-ready and accurate **AI** systems, **multi-agent orchestrations**, and enterprise-scale **Machine Learning (ML)** pipelines. Proven track record of leading **high-performing engineering teams**, driving **innovation**, and delivering complex products for diverse industries. Deep expertise in **Python**, **many types of AI**, and **cloud** infrastructure (AWS).

## Education

**SUNY Empire State College**  
*Bachelor of Science (BS), Information Systems*

**May 2007**  
**GPA: 3.8**

## Professional Experience

### Independent Projects & Contracts

*Senior AI Engineer & Full-Stack Developer*

**Remote**

*January 1998 - Present*

- AI/GenAI Development: Designs and develops custom AI-powered applications and intelligent agent systems.
- Builds multi-agent orchestration systems using LangChain and RAG architectures to automate complex workflows.
- Implements vector embeddings and semantic search capabilities for optimized data retrieval.
- Creates ML pipelines utilizing PyTorch and Hugging Face transformers for model training and deployment.
- Develops custom GPT applications and prompt engineering solutions to solve specific client problems.
- Full-Stack Engineering: Delivers enterprise solutions across industries: E-commerce, CRM, LMS, Real Estate, FinTech, etc.
- Provides technical leadership in roadmap definition and establishing engineering best practices for over 100+ individuals, organizations, and small businesses, with many repeated hires.
- Participates in product strategy and roadmapping, exercising cross-functional collaboration across departments to define requirements and deliver scalable solutions.

### Bendyworks

*Senior Software Engineer*

**Remote**

*October 2021 - August 2022*

- Full-Stack Development: Delivered enterprise web and mobile applications in an Agile consulting environment using Ruby on Rails, Elixir/Phoenix, Node.js, Python, and React.
- Architecture & Scale: Architected 3+ full-stack applications, reducing client operational costs by 30% through automation and workflow improvements.
- Performance Optimization: Optimized database queries and caching strategies, improving response times from 800ms to 200ms.
- API Design: Developed RESTful and GraphQL APIs serving 10,000+ daily requests with 99.9% uptime.
- Testing & QA: Established TDD/BDD practices, increasing test coverage from 45% to 85% and reducing production defects by over 25%.
- Mentorship: Mentored junior developers through pair programming and code reviews, improving team code quality scores by about 20%.

### Downs2Earth

*Executive Director*

**Green Bay, WI, USA**

*June 2016 - December 2021*

- Leadership: Built and led a mission-driven organization, establishing and managing a remote team of 25 across seven countries.
- Collaboration & Strategy: Developed remote management systems and cross-cultural communication strategies that enabled global collaboration and community impact.
- Operations: Managed cross-functional operations and stakeholder relations in a distributed environment.

### Casebook PBC (at Pivotal Labs / IDEO)

*Senior Web Application Developer*

**New York, NY, USA**

*January 2010 - January 2012*

- Application Development: Developed and maintained Ruby on Rails applications with a focus on scalable architecture and test-driven development (TDD).
- Frontend Engineering: Built progressive web applications using modern JavaScript frameworks and libraries.
- Database Optimization: Optimized database performance utilizing MongoDB sharding and partitioning strategies for distributed systems.
- DevOps: Established CI/CD workflows and automated deployment processes utilizing Heroku and Chef.

- Collaboration: Collaborated deeply with design teams and clients to maximize customer satisfaction metrics, exceeding targets.

## Stylesight

*Senior Web Application Developer*

New York, NY, USA

January 2009 - June 2010

- Leadership: Supervised junior web developers, analyzing areas of weakness and scheduling training sessions.
- Testing: Showed exemplary skills in debugging websites and ensuring updated software documentation.
- Mobile Development: Collaborated with mobile developers to create and build mobile-responsive websites.

## 2nd Nature Interactive

*Application Engineer & Development Lead*

Syracuse, NY, USA

April 2007 - December 2009

- Technical Leadership: Supervised the development of new engineering software and managed productivity of the technical team.
- Database Administration: Meticulously performed all database changes and administration tasks on web portal SQL servers.
- Problem Solving: Spearheaded projects by creating and running SQL queries for multiple tasks across all environments.

## Certifications

*Selected from 275+ continuous learning certifications (2020–2025). I like to figure out systems and learn new things.*

### AI Agents & Machine Learning

- AI Automation & Agents with Model Context Protocol (MCP) | Udemy (2025)
- Programming Generative AI: PyTorch, Hugging Face & Stable Diffusion | LinkedIn (2025)
- AWS Certified Machine Learning Engineer Associate (MLA-C01) Cert Prep | LinkedIn (2025)
- Complete Guide to Evaluating Large Language Models (LLMs) | LinkedIn (2025)

### Cloud Architecture & DevOps

- Kubernetes: Provisioning for Infrastructure as Code | LinkedIn (2025)
- AWS Certified Solutions Architect – Associate (SAA-C03) Cert Prep | LinkedIn (2025)
- Docker Foundations Professional Certificate | Docker (2025)

### Data Engineering & Product Leadership

- Complete Guide to SQL for Data Engineering | LinkedIn (2025)
- Product Management: Building a Product Strategy & Roadmap | PMI (2025)
- Aha! Product Management Professional Certificate | Aha! (2025)

## Skills

**AI, Machine Learning & Generative AI:** Generative AI, Machine Learning (ML), Large Language Models (LLMs), Retrieval-Augmented Generation (RAG), Neural Networks, Deep Learning, Model Context Protocol (MCP), Computer Vision, LangChain, PyTorch, Tensorflow, Hugging Face, Stable Diffusion, NumPy, Pandas, OpenAI (ChatGPT API), ClaudeCode, Cursor, Midjourney, DALL-E, Flowise, n8n, Otter.ai, RunwayML, Multi-Agent Orchestration, Vector Embeddings, Prompt Engineering, Fine-Tuning, Human-in-the-Loop (HITL), AI Orchestration, Workflow Automation

**Programming Languages:** Python, JavaScript, TypeScript, Ruby on Rails, Elixir/Phoenix, PHP, Go (Golang), Java, C/C++, Rust, Swift, Objective-C, Bash/Shell Scripting, ActionScript, CoffeeScript, AppleScript, Perl, Clojure

**Cloud Infrastructure, DevOps & CI/CD:** AWS (EC2, S3, Beanstalk, Lightsail, IAM), Google Cloud Platform (GCP), Azure, Heroku, DigitalOcean, Rackspace, Hostinger, GoDaddy, Docker, Kubernetes, Docker Compose, Helm, Terraform, Ansible, CloudFormation, Chef, Puppet, CI/CD Pipelines, Github Actions, Git, GitHub, GitFlow, Bitbucket, Apache Subversion (SVN), Linux (Ubuntu/Debian/RedHat), Nginx, Apache, SSH, VirtualBox, Vagrant, Raspberry Pi/Raspbian, Cpanel

**Backend Development & API Architecture:** FastAPI, Django, Flask, Node.js, Express.js, Next.js, Ruby on Rails (RoR), Elixir/Phoenix, Sinatra, Microservices Architecture, REST APIs, GraphQL (Apollo), Serverless, Event-Driven Architecture, Distributed Systems, OAuth, JWT, OWASP, Role-based Access Control

**Frontend Development & UI/UX:** React.js, Redux, Angular (AngularJS/Angular 2+), Vue.js, Gatsby, Tailwind CSS, Bootstrap, Material-UI, SCSS/SASS, CSS3, HTML5, Styled Components, Adobe Creative Suite, Adobe Photoshop, Adobe Illustrator, Adobe InDesign, Figma, Balsamiq, SketchUp, CAD, Visio, Responsive Design, Human-Centered Design, Wireframe, User Stories, Accessibility (WCAG), Single Page Applications (SPA), Progressive Web Apps (PWA)

**Databases & Data Engineering:** PostgreSQL, MySQL, Microsoft SQL Server, SQLite, Oracle, MongoDB, Redis, Cassandra, Dynamodb, Vector Databases (Pinecone, Weaviate, Milvus), Embeddings, ETL/ELT Pipelines, Data Analysis, Real-time Data Processing, Apache Spark, Airflow, Databricks, Apache Kafka, 3D Modeling, FileMaker Pro, MS Access

**Testing (QA) & Code Quality:** Test-Driven Development (TDD), Behavior-Driven Development (BDD), Unit Testing, Integration Testing, End-to-End (E2E) Testing, Jest, RSpec, Cucumber, Cypress, Selenium, PyTest, Mocha/Chai, Code Coverage Analysis, Static Analysis, Linting (ESLint, Pylint), Code Reviews

**Methodologies, Leadership & Soft Skills:** Technical Leadership, Agile/Scrum, Kanban, Project Management, Roadmap Definition, Strategic Planning, Mentorship, Cross-Functional Collaboration, Problem Solving, Stakeholder Management, Interpersonal Communication, Remote Team Management, Conflict Resolution