

Arcade J Mamangun

AI Automation Engineering Lead
AI/ML Solutions Architect
Senior Backend Architect
Algorithm/Mathematics Expert

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EDUCATION:

B.S. in Mathematics and Computer Science

University of California,
Berkeley
Berkeley, CA
2009–2013

Availability

Remote
Full-time or Contract
Open to Time Zones
Fluent English

CORE COMPETENCIES:

Leadership & Architecture

Strategic Planning, Solution Architecture, Technical Team Leadership, Cross-functional Collaboration, Vendor Evaluation, System Design, Technical Documentation, Stakeholder Communication

AI/ML Engineering

LLM Orchestration (GPT-4, Claude 4, Gemini), RAG Systems, Vector Databases, Prompt Engineering, LangChain, OpenAI Assistants API, Anthropic Claude API, Model Deployment, AI Agent Frameworks

Backend & Infrastructure

Python (FastAPI, Django, Flask), Microservices Architecture, Event-Driven Systems, Redis, PostgreSQL, MongoDB, Kafka, RabbitMQ, Celery, Docker, Kubernetes, CI/CD, AWS (Lambda, ECS, S3, RDS), GCP, Terraform

PROFILE:

Senior AI/ML Solutions Architect with 12+ years progressive experience scaling from junior Python developer to technical leader. Expert in architecting enterprise AI systems, leading cross-functional teams, and designing automation infrastructure that decreased operational costs by 60%+. Recently transitioned from hands-on development to strategic leadership—directing AI agent implementations, workflow orchestration, and system integrations across multiple organizations.

Core Value Proposition: Bridge business objectives with technical execution through solution architecture, team leadership, and strategic technology decisions.

PROFESSIONAL EXPERIENCE:

LEAD AI/ML Engineer & Automation Architect

Merged Media | Ontario, Canada (Remote) | June 2022 – Dec 2025

- Led a 4-person team to design AI infrastructure handling 50,000+ monthly interactions, improving scalability and service reliability through event-driven architecture
- Architected end-to-end voice and SMS AI agent systems for lead generation, processing 1000+ calls daily for agency clients using Retell AI, VAPI, and custom workflows
- Designed n8n-first automation architecture where AI agents, CRMs, and internal services communicate through event-driven workflows instead of tightly coupled code, reducing manual operations by 85%
- Built production-grade text-based AI agents for customer interaction using OpenAI GPT-3.5/4 with custom prompt engineering strategies and fine-tuning for domain-specific use cases
- Implemented real-time conversation logging and analytics system tracking call outcomes, sentiment analysis, and conversion metrics for continuous optimization
- Built reusable AI architecture adopted by 3 client implementations, improving lead qualification accuracy by 45% using Python FastAPI services and CRM integration with 15+ third-party platforms
- Created automation templates for lead qualification, appointment setting, and follow-up sequences with webhook-based integrations reducing deployment time from 2 weeks to 3 days
- Own technical roadmap for AI/automation initiatives including vendor evaluation, technology selection, and best practice establishment for team and clients

Achieved: 60% operational cost reduction and cut response time from 4 hours to under 2 minutes by implementing multi-agent orchestration and RAG knowledge integration

Automation & Integration

Voice AI (Retell AI, VAPI, Bland AI, ElevenLabs, Twilio),
Workflow Orchestration (N8N, Make, Zapier), CRM
Integration, API Development
& Integration, ETL Pipelines,
Webhook Architecture,
Real-time Data Processing

AI/ML Engineer

Inclusify Studio | Detroit, Michigan (Remote) | Jan 2020 – Feb 2022

- Developed real-time NLP sentiment analysis models using HuggingFace Transformers served via Ray Serve + FastAPI on AWS
- Integrated OpenAI API with custom transformer models to build domain-specific question-answering systems for customer success teams
- Designed retrieval-augmented generation (RAG) pipeline for internal knowledge base, improving support ticket resolution efficiency
- Managed migration from monolithic architecture to microservices using Docker, RabbitMQ, and PostgreSQL with improved scalability
- Built MLOps pipeline using MLflow for model versioning, experiment tracking, and deployment automation with CI/CD integration

Achieved: Model inference latency reduced from 2.5s to 400ms, 35% improved customer satisfaction through AI-powered sentiment routing

Backend Engineer

DISQO | Glendale, California (On-site) | Jan 2016 – Dec 2019

- Spearheaded backend migration from monolith to microservices architecture using Python, FastAPI, and Celery for improved modularity
- Planned and implemented asynchronous task queue system with Redis for high-throughput job orchestration and background processing
- Built internal admin dashboard with RBAC, audit logging, and custom reporting features serving 200+ internal users
- Optimized PostgreSQL query performance through strategic indexing and query restructuring, implementing distributed caching layer
- Integrated Stripe API for subscription billing and payment processing, handling enterprise-level transaction volume
- Established Docker-based local development environment and GitHub Actions CI/CD pipeline for automated deployments

Achieved: 70% faster average query response time, 60% lessened database load, 40% infrastructure cost savings, \$2M+ annual recurring revenue processed, Mentored 2 junior developers

Freelance Software Engineer / ML Developer

Upwork | Freelancer | Fiverr (Remote) | July 2013– Dec 2015

- Completed 25+ client projects in backend development, API design, and basic ML automation for startups and solo founders
- Built RESTful APIs and data processing systems using Flask, PostgreSQL, and Celery for scalable backend infrastructure
- Delivered recommendation engine prototype using scikit-learn and collaborative filtering algorithms for e-commerce client

Achieved: Established reputation for clean code and reliable delivery, Consistently received 5-star ratings from clients, Successfully transitioned from student to professional developer