

John V. J. Lang

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AI ARCHITECT | EMBEDDED ENGINEER | GAME & 3D SYSTEMS BUILDER

AI architect and hands-on engineer with 8+ years delivering production ML, intelligent automation, embedded systems, and 3D applications. Built multimillion-dollar products and pipelines, reduced operating costs, and led teams from early-stage solo execution through organizations approaching 50 people. Turns ambiguous problems into validated systems by combining modern models, reliable software architecture, and disciplined delivery from prototype through production.

RECENT EXPERIENCE

AI Manager | AIA Contract Documents

Jan 2026 - Present

- Built AIA Contract Documents' first conversational AI and legal-risk platform for clients. Built on continuous context understanding, vector retrieval, application, individual company needs, HITL relearning, and user needs. Scaled chat feature for WebGL 3D construction from prompt and template images.
- Combining MCP tools, enterprise data connectors, and company wide Azure resources so internal teams can interrogate contracts and operational data
- Integrated and evaluated foundation models, Hugging Face prompt-injection guardrails, governed training/evaluation data, document retrieval pipelines, and Copilot-assisted architecture review to improve answer quality, safety, processing speed, and delivery throughput. Established an organization-wide AIDLC

Sr. Spark Engineer, Team Lead → Data Eng. & Science Manager → AI Architect | Valenz Health

Feb 2022 - Jan 2026

- Led hands-on AI and data architecture across 42 engineers and analysts; replaced \$600K/year in siloed tooling and converted analyst/data-engineering codebases to a metadata-driven transformation framework. Built 4 new revenue based pipelines in dynamic, scalable, HITL CV, OCR, and deep learning.
- Identified \$3.2M+ in new business lines and \$750K in annual technology savings while delivering predictive products growing 300% year over year.
- Migrated petabytes of healthcare claims to distributed cloud platforms, built model readiness through MLflow, and established company-wide monitoring.

Data Scientist - Life Sciences and Operations | Healthgrades

Jan 2021 - Feb 2022

- Owned five big-data pipelines and four predictive/NLP systems serving 4,000 daily users; cut workflow runtime 93% and cloud spend by \$78K/month.

Quantitative Analyst II - Product Development | Asurion

May 2020 - Nov 2020

- Built ML pricing and anomaly-detection workflows for IoT products. Reducing a two-week reporting cycle to daily and saving \$100K/year.

AI Strategy Analyst - Products | Churchill Downs

Sep 2018 - May 2020

- Led AI, automation, VR build, and product analytics across five venues; built transaction controls that identified \$85K/year in cash-flow loss.

EDUCATION

B.A. Mathematics & Minor Economics: Wabash College

M.S. Data Science: Eastern University

CERTIFICATIONS

Azure Architect Certified (exp) – Databricks Data Engineer Professional (exp) – Snowflake SnowPro Advanced Architect (exp) – Data Science: Statistics & Machine Learning – Strategic Leadership and Management

PUBLICATION & WHITEPAPER

Repay, Grover, Shipman, Lang, & Tarter. Polysorbate 80: An Emulsifying Agent in Cannabis Concentrate

Microbiology. Cannabis Science and Technology: 20-26. 2024

Lang, J. A Data Intelligence Company Built on the Premise to Never Run Anything Twice. Whitepaper: Valence

TECHNICAL SKILLS

AI/ML: Python, machine learning, LLMs, Hugging Face, Azure AI Foundry, RAG/vector databases, prompt-injection defense, model evaluation, GCP, AWS

Game/3D: Blender, Unreal Engine, IFCOpenShell, procedural geometry, computer vision, mesh/UV/collision/LOD optimization, vector/dwg/raster extraction

Embedded Systems: ROS 2, SciPy, gpiozero, Picamera2, PyCoral, RPi.GPIO, spidev, MicroPython, Raspberry Pi, Coral TPU, CUDA

Systems: Rust, OpenCV, scikit-learn, PyTorch, Go, R, Spark, distributed computing, Snowflake, Databricks, cloud architecture, MCP

SELECTED AI & ML ENGINEERING

ALME: Building goal- and constraint-aware agents with durable context and universal MCP connections so people and organizations can tailor AI behavior, tools, approvals, and outcomes to their operating model.

TestAId: Built a local-first Chrome and FastAPI medical learning coach that parses visible exam questions, routes text and image cases through Ollama and vision LLMs, validates feedback, and protects user data by default.

Atlas: Built AIA Contract Documents' conversational contract assistant with RBAC-scoped MCP tools, whole-text embeddings, provision-level risk analysis, in-chat edits, and highlighted AI changes for human review.

PROFESSIONAL DEVELOPMENT

Technical Advisor – Technical Advisory Board Member for Artie (Y Combinator 2023)

Rocket PSA – Software building simple, accessible, AI technology for new MSP market entrants served by Digital Ocean

Personal Development – AI and Data Consultant – Democratizing AI, technology, and data engineering for individual/company needs philanthropically