Richard Everts

AI Researcher & Senior Software Engineer

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Senior Python, AI, and full-stack engineer building production software since 2010. Experience spans backend architecture, applied AI, retrieval-augmented generation, multimodal sensing, simulation, and technical team leadership.

EXPERIENCE

Deep SIML Labs

Lead AI Researcher | 2025-present

- Develop AI pipelines in Rust and Python, with a focus on simulation and cognitive systems.
- Built a 3D simulation stack with custom compression and retrieval.
- Publish research and technical artifacts connecting the Free Energy Principle with system architecture.

Bestie Bot

CTO, Principal Full-Stack AI Engineer & Engineering Manager | 2020-2024

- Led development of AI telehealth systems combining language models, computer vision, and digital twinning.
- Principal investigator on a PennAITech pilot for RGB-D and thermal home monitoring, supported through the NIA-funded a2 Collective.
- Delivered React, React Native, and Next.js applications alongside Python microservices and NVIDIA edge systems.
- Built multimodal retrieval and production evaluation, release, and monitoring pipelines; managed a distributed engineering team.

Independent engineering

Contract Full-Stack Engineer & AI Build Lead | 2010-present

- Designed enterprise AI architecture, high-volume ingestion, and distributed data workflows.
- Integrated observability and evaluation with LangSmith, Sentry, and Promptfoo.
- Delivered React and Next.js applications for clients including HP, Intel, ZenBusiness, PledgeIt, and Quub.
- Built document and video processing workflows with AWS Lambda, S3, and asynchronous orchestration.

The United States of Autism

Director, Producer & Editor | 2013 release

- Created a feature documentary exploring autism through the experiences of families across America.
- The production followed an 11,000-mile journey over 40 days, with interviews filmed in five languages.

TECHNICAL STRENGTHS

Backend & architecture
Python, FastAPI, Flask, Django, Node.js
REST and GraphQL APIs, microservices, event-driven systems
Docker, Redis, SQS/SNS, RabbitMQ

Applied AI
LLM integrations, retrieval-augmented generation, GraphRAG
LangChain, LlamaIndex, embeddings, vector databases
Multi-agent orchestration, evaluation harnesses, computer vision

Product & cloud
React, Next.js, React Native, TypeScript
AWS Lambda, ECS/Fargate, S3, CI/CD
Rust, WGPU, PyTorch, TensorFlow, ONNX

EDUCATION

Bachelor of Arts in Philosophy
Franklin & Marshall College
Scientific and Philosophical Studies of the Mind, including AI and neuroscience.

RECOGNITION AND CERTIFICATIONS

- Inventor, US11388238B2: Localized situational intelligent awareness from multiple sensor types through a 4-dimensional state system; granted July 12, 2022.

- Runner-up, Federalist Society Future of AI in Law Symposium for National Security (2024), for the AI Rollback (AIR) Strategy Framework.

- AWS Machine Learning Foundations, Udacity (2022).

- Robotics Software Engineer, Udacity (2019).

- Build a Modern Computer from First Principles, Coursera (2017).