Adam Rybinski

AI Engineer | LLM & Multi-Agentic Systems Specialist
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TECHNICAL EXPERTISE

Python Engineering & Scientific ML (8+ Years)

Scientific ML: PyTorch · **Keras** · **TensorFlow** · **Scikit-learn** · NumPy · Pandas · Deep Learning · Neural Networks
Engineering: FastAPI · **Django** · **Flask** · **AsyncIO** · RPC Node-Python Bridges · Microservices
Specialized AI: Video Analysis · **Image Classification** · **NLP Token Analysis** · Computer Vision · Transformer Models

Multi-Agentic AI & LLM Systems

LangGraph · **LangChain** · **CrewAI** · **MCP Servers** · **AutoGPT** · **ADK (Agent Development Kit)** · **RAG** · **Multi-Agent Orchestration** · LLM Models (OpenAI, Claude, Gemini, Proprietary) · **Prompt Engineering** · Few-shot Optimization · Instruction Fine-tuning · **FastAPI LLM Integration**

AI Platform & Infrastructure

Cloud-agnostic AI/ML solutions using **Terraform**, **Helm**, **Kubernetes** (EKS, **AKS**, GKE) with **GPU-accelerated model hosting**, CI/CD/**Argo workflow automation**, and **multi-cloud scale**. **Vendor-agnostic platforms** integrating **OpenAI**, **Claude**, **Gemini**, and custom models for **multi-agent orchestration** using **LangChain**, **LangGraph**, **CrewAI**, **AutoGPT**, **ADK**, and proprietary frameworks with dynamic workload allocation.

Cloud-Agnostic ML Infrastructure & DevOps

AWS (EKS, SageMaker) · **Azure** (AKS, ML Studio, Cognitive Services) · **Kubernetes** · On-Prem · **Terraform** (IaC) · **Docker** · **Argo Workflows** · **Helm** · **GPU Node Orchestration** · GitOps · CI/CD

ML Ops & Model Serving

GPU-Powered Inference · **Model Hosting on K8s** · **Vector Databases** · Pipeline Automation · Model Versioning · Low-Latency Serving · Microservices Architecture

Development & Integration

Node.js · **React/TypeScript** · **REST APIs** · **GraphQL** · **WebSockets** · Watson AI · Hugging Face · Real-time Data Processing · **Python-Node RPC Bridges**

PROFESSIONAL EXPERIENCE

AI Engineer & Multi-Agentic Systems Specialist, European Patent Organisation

April 2024 – Present

- Designed **multi-agent AI systems** using **Python** with **FastAPI**, **LangGraph**, **LangChain**, **CrewAI**, **MCP servers**, **AutoGPT**, and **ADK** for automated patent report generation with specialized agents for research, analysis, and synthesis
- Architected **cloud-agnostic AI platform** on **AWS** and **Azure** (AKS) and on-premise using **Terraform** IaC, **Kubernetes** with **GPU orchestration**, **Argo Workflows**, and **Helm** for zero vendor lock-in
- Built **end-to-end ML pipelines** with **Python**, **PyTorch**, **Docker**, GitOps integrating **OpenAI**, **Claude**, and proprietary models; implemented **GPU-powered serving** on K8s, reducing report generation time by 75%

AI & Cloud Infrastructure Consultant, EarnLab

2023 – 2024

- Architected and deployed **AWS infrastructure** for box company platform using **Kubernetes** consulting and **security-hardened deployments** of **Node.js** services with **Nuxt.js** framework
- Implemented **Vue.js UI** applications with **WebSocket** real-time communication for enterprise logistics platform
- Established **DevOps best practices** with **Terraform** IaC, **CI/CD pipelines**, and **security compliance** for production deployments on **AWS EKS**

AI Engineer - Agentic Systems, ICS (Intelligent Chat Solutions)

2025

- Built **agentic chat system with RAG** utilizing **Cloudflare AI Workers**, **AI Gateway**, and **open-source LLMs** including **Llama** models for intelligent document retrieval
- Architected **serverless AI infrastructure** on **Cloudflare Workers** with **vector databases** for scalable RAG implementation, serving real-time responses with sub-100ms latency
- Integrated **multi-model orchestration** across **Cloudflare AI Gateway** enabling dynamic model selection between proprietary and open-source LLMs for cost optimization and performance

Freelance AI Engineer & LLM Consultant

April 2022 – April 2024

- Built **multi-persona AI chat** using **Python** with **FastAPI**, **LangChain**, **AutoGPT**, **AI Gateway**, **Claude**, and **OpenAI** for marketing client with specialized customer support personas, serving **10K+ daily users**
- Deployed **cloud-neutral AI solutions** for Fortune 500 with modular **Python** architecture across **AWS**/**Azure**, leveraging **Kubernetes** and **Terraform**
- Implemented **RAG systems** with **Python**, **PyTorch**, and vector databases for document analysis, utilizing **NLP token analysis**, **prompt engineering**, and **few-shot optimization**, improving accuracy by 35%
- Developed **React/TypeScript** frontends for AI platforms with **Python-Node RPC bridges**, real-time data processing, and cognitive science-driven human-AI interfaces

Senior Software Engineer, Betsson Group

April 2023 – April 2024

- Architected **RAG-based AI system** using **Python** with **FastAPI**, **LangChain**, and vector databases for semantic search across codebase documentation for **200+ developers**, reducing search time by 60%
- Built **AI-powered code analysis tools** with **Python** integrating **OpenAI** with internal repositories; developed **React/TypeScript** interfaces on **AWS** with real-time semantic search
- Implemented vector embedding pipelines for repository indexing with **Python** (**PyTorch**, **Transformers**)/**Node.js** microservices architecture

Senior Software Engineer, Deriv Europe

October 2021 – April 2023

- Developed **React trading interfaces** with real-time data visualization, improving decision-making speed by 25%
- Built **GraphQL/REST APIs** for high-frequency financial platforms; implemented **RAG systems** and **vector databases** for intelligent document search in financial documentation
- Created accessible UIs for complex financial tools used by global trading community with data-driven design

Software Engineer, IBM

January 2017 – 2021

- Developed **AI-powered presentation analysis** with **Python**, **TensorFlow**, **Keras**, and **Watson AI** using **video analysis**, **Speech-to-Text**, and **image classification** to auto-segment presentations with transcripts and navigation (precursor to YouTube chapters)
- Built enterprise **cognitive AI interfaces** using **Python** with **Flask**/**Django** and **Watson** for healthcare and banking, integrating **NLP token analysis** and computer vision APIs on **IBM Cloud** and **Azure**
- Implemented **multi-modal AI pipelines** with **Python**, **PyTorch**, combining speech recognition, **video analysis**, **image classification**, and NLP for automated content understanding; created **React/TypeScript** frontends with real-time transcript generation

EDUCATION

M.S. Cognitive Science
Jagiellonian University, 2017–2019
Thesis: Explainable AI through Deep CNN structure analysis

B.Sc. Neuroscience
Jagiellonian University, 2011–2015
Project: Neural Network Analysis with Graph Theory

LANGUAGES

English (C1) · **Polish** (Native)