Arav Bhardwaj

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Education

Carnegie Mellon University – Pittsburgh, PA   May 2028
BS in AI and Statistics and Machine Learning; GPA: 3.6

Experience

Chief Technology Officer, Basics – Pittsburgh, PA   Sept 2025 – Present
- Achieved **$5K pilot revenue within 2 months** by building real-time execution monitoring system across terminals, IDEs, and deployment platforms using Python and Docker to validate MLOps workflow completion
- Reduced AI training content generation time by **95% (40+ hours to under 2 hours)** by architecting automated LangGraph pipeline that ingests unstructured company documentation and produces MCP-validated workflows
- Secured **YC final-round interview (top 2% of 15,000+ applicants)** and won **1st place at Pittsburgh pitch competition ($1.5K prize)** through rapid MVP development and customer validation

Fullstack Software Engineer Intern, Karini AI – Alpharetta, GA   May 2025 – July 2025
- Scaled MCP governance platform to **10+ enterprise clients managing 30+ production servers** by building centralized registry with Next.js, React, MongoDB, and custom RBAC, reducing policy deployment time from **days to minutes**
- Delivered enterprise Microsoft Teams AI chatbot for Swagelok processing **1,000+ S3 documents with sub-2-second streaming responses** and **95%+ citation accuracy** using Azure Bot Framework SDK and document retrieval pipelines
- Improved multi-agent system efficiency by **60%** by architecting A2A protocol in LangGraph backend, encapsulating workflows as **API endpoints** for cross-agent invocation without repetitive schema definition

Backend Software Engineer Intern, Sparo – Philadelphia, PA   June 2024 – July 2024
- Increased recruiting pipeline efficiency by **85%** by building automated LinkedIn profile extraction system using Puppeteer and Node.js that processed **1,000+ profiles at 120 profiles/hour** with **98% data accuracy**
- Improved candidate placement rate by **30%** by developing connection-mapping algorithms that identified warm networking pathways between candidates and target companies

Machine Learning Engineer Intern, Dartmouth-Hitchcock Medical Center – Hanover, NH   June 2023 – July. 2024
- Generated **synthetic colorectal tissue images** from spatial omics data by implementing Wasserstein GAN with gradient penalty in PyTorch, applying spectral normalization to eliminate mode collapse and stabilize training
- Accelerated whole slide imaging analysis by **40%** by optimizing computational workflows on Slurm HPC clusters with parallelized batch processing across distributed nodes for terabyte-scale medical datasets

Projects

Project Title   github.com/abharw/sparo
- Built AI governance gateway in Go preventing LLM cost overruns and enforcing compliance policies across providers and MCP servers, reducing policy deployment from hours to **sub-5 minutes** via Python SDK
- Engineered policy engine supporting **model-specific, provider-wide, and global enforcement** with integrations for LangChain and MCP servers featuring granular access control and budget management

Project Title   github.com/abharw/verity
- Developed **content authenticity verification platform** combining AI-powered deepfake detection, IPFS decentralized storage, and Polygon blockchain smart contracts for **immutable proof** of digital content tampering
- Built **production full-stack application** with FastAPI backend managing Web3.py blockchain transactions, Next.js TypeScript frontend with authentication, and MongoDB for verification history

Skills

Languages: Python, JavaScript/TypeScript, Go, C/C++, SQL (Postgres), HTML/CSS, R, Solidity
Frameworks: React, Node.js, Next.js, Flask, FastAPI, PyTorch, TensorFlow, LangChain/LangGraph
Developer Tools: Git, Docker, Kubernetes, AWS (EC2, S3, Lambda, SageMaker, Route53), Azure, MongoDB, PostgreSQL