Sawyer Czupka

+1 (757) 818-0742 ⋄ sawyerczupka@gmail.com ⋄ https://www.linkedin.com/in/sawyerczupka/

EDUCATION

College of William & Mary *Sept. 2021 - May 2025*
BS in Computer Science & Data Science, Cum Laude & Deans List GPA: 3.6
Coursework includes Cloud Computing, Cybersecurity, Neural Networks, and Natural Language Processing

EXPERIENCE

Machine Learning & Software Engineer, Teamculture.ai / L10.tech *Jan. 2024 - Sept. 2024*

- Spearheaded development of a Retrieval Augmented Generation (RAG) evaluation system using AWS Lambda and DeepEval, creating modular and scalable code to monitor and improve product performance.
- Designed and implemented a Vue/FastAPI interface for creating and monitoring evaluations, facilitating the building of a golden example dataset to evaluate the system at scale.

Machine Learning Technical Lead, GeoLab @ William & Mary *Jan 2023 - May 2025*

- Orchestrated integration of AI capabilities across machine learning (ML), frontend, and backend subteams, establishing technical requirements and leading implementation within SCOPE, a research tool developed by GeoLab.
- Led ML subteam within GeoDev, evolving the prototype RAG system developed at the Global Environment Facility (GEF) into SCOPE using Qdrant, vLLM, Llamaindex, and FastAPI.
- Engineered an advanced document processing pipeline using vision-language models (Qwen-2.5VL & Rolmocr) and significantly improved extraction of text and spatial information from complex PDF/DOCX documents.

Machine Learning & Software Engineer Intern, The World Bank & GEF *May 2023 - Sept. 2023*

- Developed a prototype system to automate human analysis of GEF project documents using large language models and RAG.
- Facilitated efficient large-scale analysis of 24k projects to evaluate impacts on Socioeconomic Status, informing future project direction and funding allocation.

PROJECTS

iRacing Telemetry Tracking System *Jan. 2025 - Current*

- Engineered real-time racing telemetry system processing iRacing data at 60Hz using Python/FastAPI microservices, TimescaleDB hypertables, and custom event-driven architecture with thread-safe asynchronous processing.
- Implemented multi-repository pattern with SQLAlchemy ORM, Pydantic data validation, and dependency injection, while building comprehensive REST APIs for telemetry upload and session management.

Personal Homelab *July. 2023 - Current*

- Maintain a homelab environment using Proxmox, Docker, and Kubernetes to experiment with infrastructure automation while hosting practical services like Vaultwarden and Technitium DNS, all via Traefik reverse proxies using Let's Encrypt TLS certificates to access services securely.
- Leverage infrastructure-as-code with Packer, Terraform, K8s Manifests, Docker Compose, and ArgoCD to streamline VM template generation, VM provisioning, app configuration and continuous deployment, enabling rapid experimentation with new tools and services while maintaining a consistent environment.

Goal-Conditioned RL with Natural Language *Jan. 2024 - May 2024*

- Developed an experimental Reinforcement Learning (RL) agent that learns to map natural language instructions to actions in an environment with encoded object features (position, type, color), successfully demonstrating basic spatial reasoning for commands like "Grab the animal" or "Move the dog to the top left".

SKILLS

Programming & ML Technologies
Python, Java, C++, JavaScript, PyTorch, Scikit-Learn, Pandas, Hugging Face, Vue, FastAPI, Git, AWS Lambda, PostgreSQL/TimescaleDB

DevOps & Infrastructure
Docker, Kubernetes, Terraform, Packer, ArgoCD, GH Actions, Prometheus/Grafana, Linux, Traefik, MLflow