

# Aidan Adams

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## Education

### Virginia Polytechnic Institute and State University

M.Eng. in Computer Science, AI/ML Focus (GPA: 3.90 / 4.00)

Expected May 2026

Blacksburg, VA

### Virginia Polytechnic Institute and State University

B.S. in Computer Science (GPA: 3.68 / 4.00)

May 2025

Blacksburg, VA

- **Dean's List with Distinction**, multiple semesters
- **Coursework:** Computer Systems (C), Data Structures and Algorithms (Java), AI/ML (Python), Data Analytics (Python)

## Experience

### Peraton

Jan 2025 – Present

Software Engineering Intern

Herndon, VA

- Built Python based LLM agents with Retrieval Augmented Generation (RAG), tool calling, and iterative workflows in a modular agentic framework.
- Engineered a persistent memory system using PostgreSQL to enable agents to recall user-specific data and tailor responses with long term context.
- Developed analytics infrastructure to track token usage, cost, and user behavior across the LLM platform, supporting customer budgeting and system monitoring. Built a dashboard to display this data via FastAPI and React.
- Created a corresponding analytics agent that converts user prompts into SQL queries, outputs to CSV, and invokes Jupyter notebooks in Docker containers to auto-generate interactive data visualizations.
- Implemented a citation system that associates outputs with original RAG and SQL sources to reduce hallucinations.
- Contributed to Gradio based LLM interfaces, and maintained CI-ready Docker environments.
- Collaborated in Agile sprints using Jira, Git, and rigorous code review practices in a fast paced environment.

### BrightVine Solutions

May 2023 – Aug 2023, May 2024 – Aug 2024

Software Engineering Intern

Remote

- Built an Azure OpenAI integrated chatbot that converts natural language to SQL with client specific fine-tuning, saving time for business users.
- Designed and deployed a batch import error handling system using SQL, C#, and XML to production.
- Closed full stack tickets across frontend and backend systems, contributing to product enhancements and bug fixes.

### Virginia Tech Department of Computer Science

Jan 2023 – December 2024

Teaching Assistant, CS 1064: Intro to Python

Blacksburg, VA

- Supported 2000+ students by mentoring, debugging, and answering questions on foundational Python coding.
- Graded and provided feedback on hundreds of coding projects, assessments, and essays to reinforce best practices.

## Projects

### AI Deepfake Detection System | Neural Networks, Computer Vision, SVM, AWS, API, Next.js, Flask, Agile Methodology

- Team Lead on capstone project developing an advanced AI deepfake detection system with 86% accuracy utilizing computer vision, SVM's, and CNN's
- Managed large data size with cloud resources for training while iteratively testing different models effectiveness.
- Deployed API and web frontend with Next.js and backend with Flask where users submit videos for analysis.
- Managed team members progress with agile framework through scrum sprints and regular stand-up meetings.

### Q-Learning Tag Agents | Q-Learning, OpenAI Gymnasium, Matplotlib, PyGame

- Built a custom multi-agent Tag environment in Gymnasium with Q-learning, featuring discrete 8-direction movement and dynamic epsilon-greedy exploration, visualized in PyGame
- Refined reward structures and hyperparameters to optimize training, with performance visualized using Matplotlib.

### Oscars Prediction Modeling | Pandas, Scikit-learn, Web Scraping

- Used Metacritic scraper and TMDB API to collect data on 100k+ films; built ML models to predict Oscar winners.

## Technical Skills

**Languages:** Python, C, Java, C#, SQL, JavaScript   **Tools:** FastAPI, Flask, React, Next.js, Gradio, TensorFlow, Jupyter, PyTorch, Pandas, Scikit-Learn   **Cloud/DevOps:** Docker, Azure Blob Storage, AWS S3, CI/CD, Linux, API Deployment  
**Concepts:** LLM Agents, RAG, Data Engineering, API Design, Prompting, Systems Programming, Agile, Data Analytics