Jack M. D'Angelo

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Motivated early professional with hands-on experience in data automation and cloud management. Designed and implemented Retrieval-Augmented Generation (RAG) and SQL-based pipelines to extract actionable insights from large, complex datasets. Eager to apply knowledge of data analysis and cybersecurity to the field of cyber intelligence.

EDUCATION

Georgetown University, Washington, DC — December 2024

Bachelor of Science in Computer Science, Minor in Mathematics — **GPA: 3.75**

TECHNICAL SKILLS

Languages: C/C++, Python, SQL

Databases & Cloud: Google Cloud Platform, PostgreSQL, Vector Databases (e.g., Pinecone, pgvector)

Tools & Platforms: Git, Wireshark, Windows, Linux, macOS

Relevant Coursework: Information Assurance, Privacy and Surveillance Technologies, Network Security, Number Theory and Cryptography

EXPERIENCE

Burbio, Pelham, NY (Remote) — June 2024 - Present

Data Engineer – (full-time, promoted in February 2025 from a part-time Data Automation Intern) Engineering pipelines to collect and analyze raw data for a small business providing school district data to vendors serving the education sector.

- Developed a client-customizable signal detection system to extract sales & marketing signals from 100,000+ document pages per month for hundreds of clients in the education sector, providing lead generation efficiency.
- Implemented a multi-stage inference pipeline using semantic search and classification methods, filtering out 95% of non-relevant content before LLM processing, significantly improving cost efficiency.
- Cut processing costs by 80% ($15,000/year) and runtime by 75% by introducing classification refinements, algorithmic optimizations, and parallelized GPU batch processing to refine relevance filtering while maintaining ~90% retention of consistently relevant text chunks.
- Spearheaded the development of a data pipeline designed to extract and store millions of entity names across millions of document pages per month, allowing for SQL fuzzy-matching and AI categorization methods to filter for relevant entities and their relationships.
- Recommended transition from ad-hoc Google Colab/local execution to cloud solutions (Cloud Run, Pub/Sub, Cloud Compute VMs), enabling more secure and reliable workflows.
- Hardened the company's Google Cloud Platform workspace by removing unnecessary service accounts, enforcing least privilege principles, segmenting processes, and advocating for permissions tracking and secure password policies.
- Removed operational bottlenecks by designing and documenting a secure and reproducible framework for non-technical employees to interact with technical resources (VMs, Databases, Cloud Run Functions) via a spreadsheet-driven interface.
- Extended in-house validation tools to improve data quality by detecting duplicate, corrupted, encrypted, or misformatted files, establishing standardized naming conventions, and evaluating document content.
- Devised web scraping and monitoring pipelines that continuously update core datasets.

Georgetown University, Washington, DC — March 2024 - December 2024

Research Assistant – (10 hrs/wk) Collaborating on a NASA-funded project to transform Mars and Lunar terrain visualization software into a web application using WebGL2, enhancing data accessibility and user experience.

- Reduced load times and enhanced user experience by integrating persistent storage solutions with the OPFS
- Achieved a 40% reduction in processing and chunking times by converting JavaScript into C++ and compiling it into WebAssembly modules, leveraging multithreading within WebAssembly to process file chunks in parallel.
- Utilized Web Worker threads to offload tasks from the main thread, combining both threading approaches to maximize performance and responsiveness.
- Co-authored an abstract and presented a poster board at the American Geophysical Union (AGU24) Annual Meeting on web-based software tools for topographic data analysis. Abstract Link.

CERTIFICATIONS & PROJECTS PORTFOLIO

- CompTIA Security+
- jackdangelo10.github.io/PortfolioWebsite