Graham **Joss**

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Professional Statement

I am a technologist with a strong foundation in software development, data science, and geographic information systems (GIS). Eager to tackle complex problems through algorithmic thinking and intellectual rigor.

Technical Skills

Core Engineering: Python (AsyncIO, Multithreading), C, Java, JavaScript, Dart, SQL.
Systems & Automation: Shell Scripting (Zsh, Bash), Text Processing (Awk, Perl), Vim Script, Linux/Unix Administration, Git.
Data Intelligence & AI: Vision Language Models (Transformers), Pandas, NumPy, Regex, Web Scraping, ETL Pipelines.
Geospatial (GIS): ESRI ArcGIS (Pro, Online), GeoPandas, Leaflet, Folium, SQL.
Infrastructure: AWS (EC2/S3), PostgreSQL, Docker, Firebase.

Professional Experience

Locusview (GIS Software) | ***AI Engineer & Business Development Intern*** | *Chicago, IL* | *March 2025 – August 2025*
- High-Throughput Pipeline Architecture: Architected a robust, multi-threaded Python ingestion system to migrate large-scale legacy utility content. Implementing intelligent rate-limiting logic to maximize throughput without triggering API bans.
- "OCR-Free" VLM Implementation: Moved beyond standard Optical Character Recognition by researching and deploying Vision Language Models (specifically the Pix2Struct architecture) to solve an "OCR-free" information extraction challenge. Successfully engineered a pipeline to extract semantic attributes (manufacturer, serial numbers) directly from complex utility equipment PDFs where traditional OCR failed.
- Knowledge System Migration: Architected the migration of institutional training data to a centralized internal knowledge base, optimizing accessibility and significantly reducing hosting costs.

Chicago Metropolitan Data Science Corps (FracTracker Alliance) | ***Data Science Intern*** | *Chicago, IL* | *July 2024 – September 2024*
- Data Sanitization Automation: Developed custom Pandas workflows to restructure unstructured oil/gas datasets. This automation reduced manual cleaning time by 40% and established a standardized schema for future ingestion.
- Delta-Processing Scripts: Wrote efficient Python scripts to poll regulatory APIs, utilizing logic to identify and process only new entries, thereby optimizing network resources and reducing redundant computation.
- Spatial Insight Generation: Converted raw exploratory data analysis (EDA) into interactive ArcGIS visualizations, providing stakeholders with a clear, spatial understanding of environmental impact trends.

DePaul University | ***GIS Lab Assistant & Teaching Assistant*** | *Chicago, IL | 2021 – 2023*
- Technical Mentorship**:** Guided students through the complexities of Spatial Data Science and Remote Sensing courses, focusing on the logic of reproducible workflows in Jupyter Notebooks rather than just syntax.
- Data Transformation**:** Managed ETL processes for lab datasets, ensuring diverse formats (Shapefiles, GeoJSON, Raster) were normalized for student use in ArcGIS Pro.

R.R. Donnelley | ***Sales Administrator*** | *Chicago, IL | 2015 – 2019*
- Process Optimization: Strategized multi-channel engagement workflows, applying a data-driven approach to physical mail campaigns that improved conversion metrics and customer retention.

Projects

The "Plain Vanilla" SPA Architecture | *grahamjoss.org*
- A reactive Single Page Application without the overhead of modern frameworks (React/Vue) to master the Document Object Model (DOM) from first principles.
- Engineered a lightweight JS architecture integrating Leaflet.js for GIS rendering and Excalidraw for white-boarding. Developed a custom Python parser to convert local Markdown notes (Obsidian vault) into HTML, preserving data sovereignty and eliminating dependencies on proprietary CMS tools.

The "Vim-ista" Configuration Ecosystem | *github.com/gramjos/vim*
- Maintained a rigorous, 100+ line Vim Script configuration. Wrote supporting shell scripts to integrate the editor seamlessly with system clipboards and fuzzy finders, treating the development environment as a programmable platform rather than a static tool.

Unix-Native Scraper | *github.com/gramjos/GetGitHubRepoNames*
- Leveraged the Unix Philosophy by chaining small, single-purpose tools (Zsh, Awk, Curl). Proved that complex text processing tasks could be solved with 10 lines of Awk where others might use 50 lines of Python.

Education

DePaul University | *B.S. Computer Science – Software Development* | *May 2024*
- Certificate in Geographic Information Systems (20-credit hour specialization).
- Capstone: Developed a full-stack Weather Application using Django and PostgreSQL hosted on AWS EC2.

Volunteer

Mentor Collective | *Mentor* | January 2024 – August 2024
- Mentored junior college students transitioning to universities in computer science, offering guidance on attitude, work ethic, and practical skills for success in competitive academic settings.