Audrey Houghton (she/her)

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TECHNICAL SKILLS

Software

Proficient with Python, JavaScript, UNIX/Linux, GitHub, LaTeX, EMACS, VSCode, Singularity, Docker, Node.js, npm, and virtual environments. Familiar with Matlab, R, IDL, Go, Ansible, AWX, RedHat, ReadTheDocs, and Google Apps Script (via clasp). Knowledgeable in CI/CD pipelines (e.g., CircleCI, GitHub Actions) and deep learning AI (nnU-Net). Applied skills in DevOps, data engineering, and software engineering roles.

Data

Proficient in High-Performance Computing tools, including AWS (S3), Ceph, SLURM, Kubernetes, Grafana, and Globus. Experienced in ETL-based data warehousing, denoising, bias correction, batch processing, and template registration. Knowledgeable in data querying with SQL and Prometheus. Skilled in Salesforce API integration, Microsoft Teams automation, compliant web scraping practices, and testing/validation of data pipelines. Skilled in observability and monitoring with Grafana dashboards, Prometheus metrics, and custom alerting pipelines; experienced in statistical analysis and benchmarking for performance validation and reliability testing.

Product Management

Proficient in cross-functional and customer communication, Kanban boards, Jira, and documenting SOPs, methodologies, terminology, and codebases. Experienced with MVP development life cycles and familiar with Agile and Scrum frameworks. Applied business process automation to improve sales and reporting workflows.

PROFESSIONAL SUMMARY

- Engineer experienced in scaling high-performance computing and cloud infrastructure, with a track record of improving efficiency, reliability, and cost savings across research and production environments.
- Builder of open-source and proprietary tools, from containerized MRI workflows and SLURM wrappers to business automation pipelines integrating Salesforce, Google Apps Script, and Microsoft Teams—applying product-oriented thinking to design solutions with usability, efficiency, and business impact in mind.
- Seeking to apply systems expertise and process automation skills toward data infrastructure, internal tools, or engineering productivity roles, while continuing to grow in project management, cross-functional collaboration, and independent projects during 2024–2025.

EXPERIENCE

CoreWeave, Inc. *Apr 2024 - Sept 2024*
Fleet Operations Engineer Remote

- Provisioned and maintained thousands of NVIDIA GPU nodes in Kubernetes clusters using Ansible, AWX, Grafana, and Go, achieving onboarding timelines of 1–2 weeks with 6+ months average production uptime
- Diagnosed and resolved hardware/software issues across the node lifecycle, saving approximately $250,000 per node repaired
- Partnered with 10+ teams—including networking, hardware, operations, and support—to streamline troubleshooting, accelerate incident resolution, and document SOPs and post-mortems, improving efficiency and reliability
- Identified points in the node lifecycle where nodes were lost, implementing solutions that saved the company millions in revenue

Masonic Institute of the Developing Brain *Jan 2021 - Apr 2024*
Research Professional II → Research Professional III Minneapolis, MN - Remote

- Developed Python wrappers leveraging AWS S3 storage and SLURM optimization to accelerate image processing up to 12x
- Engineered a containerized infant MRI segmentation application with deep learning models, achieving 600x speed-ups and +53% accuracy
- Built ETL-based pipelines to transfer and process petabytes of imaging data 10x faster than prior industry benchmarks, incorporating statistical error analysis and validation to ensure reliability and reproducibility
- Authored comprehensive documentation and curriculum, setting standards for reproducible neuroimaging data processing

Calyxt *Oct 2019 - Aug 2020*
Laboratory Assistant & Data Specialist Roseville, MN

- Developed Python scripts for comprehensive data tracking and analysis methods

Huntington Learning Center *Aug 2019 - Oct 2019*
Mathematics Instructor Plymouth, MN

Tutor Doctor *Jan 2019 - Jun 2019*
Mathematics Instructor Loveland, Colorado

Waste Not, LLC. *Est. 2018*
Data Manager and CEO

Amazon   *Jul 2018 - Aug 2018*
Data Entry Associate   Seattle, WA

Imagine Prep at Surprise   *Jul 2017 - Jul 2018*
Mathematics Instructor   Surprise, AZ

The MINVERA Project   *Jan 2015 - May 2017*
Research Assistant   Missoula, MT
- Developed a data reduction pipeline for time-domain imaging data written in Python

Rutgers University Astrophysics Department   *May 2016 - Aug 2016*
Research Assistant   New Brunswick, NJ
- Refactored IDL scripts into Python
- Generated models for galactic simulations through parameter optimization

PRODUCTS

Sales Summary Project   2025
Automation Pipeline for Lead Generation & Sales Tracking [Proprietary]
- Designed a proof-of-concept pipeline integrating Salesforce logging, CSV rotation, and Microsoft Teams alerts
- Implemented compliant web scraping (robots.txt, throttling, retries) to demonstrate reliable, ethical data collection for potential enterprise use

JavaScript Excel Sheet App   2025
Google Apps Script Utility for Dynamic Links [Personal]
- Built a Google Sheets App Script to dynamically generate links, clean outdated entries, and trigger updates in real time
- Reduced personal job application tracking effort by automating link formatting and updates; version-controlled with GitHub using clasp, Node.js, and npm

CoreWeave Internal Documentation   2024
CoreWeave, Inc.
- Initiated and built company-wide documentation from the ground up, replacing scattered one-off documents with an organized, centralized Notion knowledge base covering terminology, SOPs, and team workflows

SLURM Wrappers   2021 - 2024
High-Performance Computing S3 and Disk SLURM-Compliant Wrappers   github.com/DCAN-Labs/SLURM_wrappers
- Bash/Python wrappers adaptable to any SLURM-based data pipeline

ABCD Study Collection 3165 Data Processing   2021 - 2024
NIH Data Archive (NDA)   collection3165.readthedocs.io
- Community dataset enabling access to petabytes of processed/unprocessed MRI data under BIDS standards

DCAN Labs Informational Guide   2022 - 2024
Minnesota Supercomputing Institute Data Engineering Documentation   dcan-labs-informational-guide.readthedocs.io
- Comprehensive, continually-supported documentation of usage of the Minnesota Supercomputing Institute to process, analyze, and transfer MRI data

CABINET   2022 - 2023
Container-Linking Wrapper   github.com/DCAN-Labs/CABINET
- Python-based universal container-linking wrapper employing FAIR principles

BIBSNet   2022 - 2023
Infant MRI Brain Segmentation Application   github.com/DCAN-Labs/BIBSnet
- Containerized infant MRI application; achieved 600x faster processing and +53% accuracy

Data Processing Workshop   2022
Minnesota Supercomputing Institute (MSI) Data Processing Workshop   tinyurl.com/MRIsyllabus
- An extensive all-levels MSI data processing workshop
- Used as a template for a University neuroscience course at the University of Minnesota

RELEVANT EDUCATION

University of Montana - Missoula, MT   Aug 2013 - May 2017
Bachelors of Arts in Physics   umt.edu/physics-astronomy

University of Minnesota   Fall 2023
Data Management Series   libguides.umn.edu/datamanagement/dmbootcamp

University of Minnesota   2023
Project Management Certificate Coursework (In Progress)   ccaps.umn.edu/project-management-certificate
Completed modules: Foundations, Execution & Monitoring, Leadership, Team Communication