ANDREW SIMONSON

Data Scientist | Applied Statistics & Platform Engineering

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EMPLOYMENT

Data Scientist / Data Engineer

Ecolab

January 2024 – Present Saint Paul, MN

- Primary model developer of RushReady from inception through multimillion dollar product commercialization
- Engineered near-real-time data platform with Delta Live Tables and automated MLOps lifecycle across QSR brands
- Built explainable anomaly detection with XGBoost/SHAP attribution and brand-configurable recommendations, increasing speed of service by 20%
- Represented Ecolab as liaison in Microsoft's 100-member AI accelerator program
- Now supporting analytical monitors for nuclear power condensers, heat exchangers, and industrial Water Quality IQ applications.

Azure | Databricks | Apache Spark | Data Factory | SQL

Data Engineer

Dow Chemical

January 2023 – May 2023 Freeport, TX

- Independently built reactive chemistry analysis Flask app encoding adiabatic correction and exotherm-detection logic across 9 test types
- Architected object-model abstraction, decoupling test-type parsers from report generation and replacing 4 legacy VBA tools
- Product became the interdepartmental data standard, saving >1,020 hours (~0.65 FTE) annually
- Success inspired the launch of a dedicated Information Research internship program

MS Azure | Posit Connect | Visual Basic | Docker

PROJECTS

Cloud Chamber Reconstruction and Classification

- Built a four-camera synchronized stereo rig on a home-built diffusion chamber, reconstructing subatomic particle tracks in 3D within 1–3 mm
- Bayesian classifier with propagated measurement error identifies alphas at 0.84 balanced accuracy (AUC 0.88) vs. 0.67–0.77 in 2D
- Exposed chamber-driven domain shift (same source, 2.4x wider tracks across designs); Poisson CUSUM caught a chamber failure within 5 min

Human vs AI Code Smell Study

- Analyzed 85K+ code definitions comparing AI vs human code maintainability via static analysis and non-parametric statistics
- Found AI code carries 3–4x more structural debt invisible to reviewers; recommends automated quality gates for AI-generated PRs

Antietam Watershed Monitoring

- ArcGIS choropleth dashboard monitoring stream temps and biotic indices across Upper Potomac sub-watersheds
- Flags exceedances of healthy stream conditions for state environmental review

EDUCATION

Rochester Institute of Technology

Data Science M.S. | Computer Science B.S.

B.S. Dec 2024, M.S. Dec 2026
Rochester, NY

M.S. – Final Capstone finish in Dec 2026
B.S. – GPA 3.63, Dean's List
Dual Cluster in Data Science and AI
Minor in International Relations
UCSanDiegoX Data Science MicroMasters

SKILLS

Python | SQL | R | MATLAB | JavaScript | Rust | C# | LaTeX

MS Azure | Databricks | Apache Spark | Machine Learning | Data Mining | PyTorch | Pandas | Scikit-Learn | Docker | Kubernetes | ArcGIS | SHAP | XGBoost | Industrial IoT | Control Charts

ACTIVITIES

Computer Science House

E-Board & Presenter | csh.rit.edu

Aug 2021 – Dec 2024
Rochester, NY

- Built and maintained web services for 80+ members
- Presented seminars on web scraping and GIS

CERTS & AWARDS

asimonson.com/certs

Certified by Databricks:
ML Model Deployment, **Retrieval Agents**, **MLOps**

Certified by Microsoft:
Data Analysis Career Essentials
Docker Foundations

Hackathon Awards:
CSHacks – Best Use of AI (Paychex)
Tiger Games – Social Impact Winner
HACK.COMS '24 – Accessibility Winner