CURRICULUM VITAE

DREW M. GJERSTAD

DoD Secret Clearance
Minneapolis, MN
(■■■) ■■■–■■■■
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EDUCATION

University of Minnesota **2022–2026**
Bachelor of Science in Data Science, Minor in Mathematics *Minneapolis, MN*
Honors Thesis: Deep Generative Models for High-Dimensional Bayesian Optimization

Anoka-Ramsey Community College **2020–2022**
Associate of Arts in Liberal Arts and Sciences *Coon Rapids, MN*

RESEARCH EXPERIENCE

University of Minnesota, Department of Computer Science & Engineering **November 2024–**
Undergraduate Researcher (Supervisor: Professor Aryan Deshwal) *Minneapolis, MN*

- *Research Focus:* Sequential decision-making under uncertainty using Bayesian optimization and reinforcement learning to accelerate scientific discovery and engineering design in high-dimensional and mixed-variable (discrete, combinatorial) settings.
- Designing Bayesian optimization loops in BoTorch (Python) for high-dimensional, combinatorial objectives.
- Developing Gaussian Process models in GPyTorch (Python) for modeling black-box objective functions.

Naval Surface Warfare Center, Carderock Division **May 2024–August 2024**
Naval Research Enterprise Internship Program (NREIP) *Bethesda, MD*

- Conducted a facility characterization test to validate the capabilities of a variable-pressure water tunnel.
- Performed a systematic review of the water tunnel's standard operating procedures, hardware, and software.
- Developed a real-time and post-processing analysis tool and UI in MATLAB for facility characterization tests, including time series and signal analysis components.
- Prototyped data inference methods in Python and MATLAB for integration with an Oracle APEX database.

University of Minnesota Rocket Team **October 2023–May 2025**
Guidance, Navigation, & Control Subteam Project Focal *Minneapolis, MN*

- Led the development for the post-processing Kalman filter for state estimation, developed in MATLAB.
- Collaborated on recruitment and onboarding materials, including introductory lectures.
- Implemented the Kalman filter's control loop and data preprocessing methods in MATLAB.
- Explored validation methods to verify the Kalman filter's performance and reliability (i.e., NIS, NEES).

PROFESSIONAL EXPERIENCE

Optum **June 2023–August 2023**
Data Scientist Intern *Minneapolis, MN*

- Modeled business data in Tableau to identify areas to reduce issue turnaround time and issue volume.
- Built interactive dashboards in Tableau including an overview of business integrations, root cause analysis, and statistical process control charts.
- Automated data governance processes in Python to verify proposed data models follow conventions defined in a comprehensive data model.
- Developed an automated data quality assurance workflow in Python to validate Snowflake data lakes.

AWARDS & HONORS

- Dean's List, College of Science and Engineering, University of Minnesota (2023–2025)
- Dean's List, College of Liberal Arts, University of Minnesota (2023–2025)
- Iron Range Scholarship, University of Minnesota (2022–2026)

LANGUAGES & TOOLS

Languages: Python, MATLAB, R, Julia, C++, SQL, LaTeX
Libraries: Matplotlib, Pandas, Scikit-Learn, TensorFlow, PyTorch, GPyTorch, BoTorch, JuMP
Tools: Git, GitHub, Docker, Tableau, Snowflake, PostgreSQL, Microsoft Excel