Daniel Coblentz

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Education

Hood College — Frederick, MD
Bachelor of Science in Computer Science, Minor in Mathematics (GPA: 3.74/4.00) — *August 2023 – May 2026*

Frederick Community College — Frederick, MD
Associate of Arts (Honors), General Studies (GPA: 3.50/4.00) — *August 2021 – May 2023*

Experience

Machine Learning Research Assistant — June 2025 – August 2025
Lawrence Berkeley National Lab — *Berkeley, CA*

- Incoming Summer 2025 Visiting Faculty Program.
- Topic: multimodal learning techniques for Obstructive Sleep Apnea (OSA) phenotyping and patient risk stratification

Undergraduate Machine Learning Research Assistant — January 2025 – Present
Hood College CS Department — *Frederick, MD*

- Optimized large language models for edge deployment by applying knowledge distillation from DeepSeek-R1-14B to Qwen and LLaMA3, enhancing accuracy while maintaining efficiency on resource-constrained devices.
- Developed knowledge distillation pipelines in Python (PyTorch, Hugging Face), employing soft-label loss functions, hyperparameter tuning, and temperature scaling to enhance student model performance.
- Evaluated distilled models across diverse tasks including image generation, image classification, visual question answering (VQA), text summarization, sentiment analysis, and code generation, assessing improvements in accuracy, latency, inference efficiency, and resource utilization relative to baseline and teacher models.

Web Development Intern — May 2024 – August 2024
International Help — *Remote*

- Developed an interactive mapping dashboard using Google Data Studio, HTML, and CSS, visualizing global health worker deployment, disease reduction rates, and volunteer metrics to provide real-time insights.
- Automated data preprocessing by converting fragmented CSV datasets into cleaned, consistent Pandas dataframes using Python, significantly reducing manual data cleaning tasks and ensuring data integrity for analysis and visualization.

Projects

BookShelf | *MongoDB, Express.js, React, Material-UI, Node.js, Docker* — February 2025 – Present

- Developed a full-stack web application using the MERN stack, with a React.js frontend, allowing users to track books, write reviews, and engage with a reading community.
- Designed and implemented multiple RESTful APIs with Node.js and Express.js, defining routes for book management, user authentication, and review submission.
- Integrated the Google Books API to fetch real-time book data, including titles, authors, descriptions, and cover images.
- Set up CI/CD workflows with pre-commit hooks and Github Actions to automate build and deployment based on merge state of PR.

Box Office Predictive Analysis | *R, Git* — August 2024 – August 2024

- Developed and evaluated linear regression models to predict domestic gross income, incorporating variables like opening weekend earnings and audience scores, with a focus on differentiating financial outcomes across genres.
- Implemented model diagnostics to evaluate model performance, including residual analysis and simulation of datasets, ensuring robust predictions into Hollywood film earnings.

Technical Skills

Languages: Python, Java, C++, SQL (Postgres), HTML/CSS, JavaScript, R, Bash
Frameworks: Express, Flask, Node.js, React, Spring Boot
Developer Tools: AWS, Docker, Eclipse, Figma, Git, Google Cloud Platform, IntelliJ, MongoDB, Postman, PyCharm, VS Code, Visual Studio
Libraries: Matplotlib, Material-UI, NumPy, Pandas, Scikit-learn, Seaborn, TensorFlow