Emmett Jaecklein

emmettjaecklein@gmail.com — (253) 341-3266 — Tacoma, WA
LinkedIn — GitHub

Education

Western Washington University *B.S. Data Science*

Graduated: March 2025
Minor: Anthropology
An interdisciplinary degree grounded in computer science, mathematics, and statistics, with a focus on building scalable, ethical, and data-driven solutions.

Technical Projects

Machine Learning Zoo *Collaborative Research Project with the Woodland Park Zoological Society*
Research Collaborator *December 2024 – Present*

- Initiated a collaborative research partnership between WWU and Woodland Park Zoo to develop automated animal tracking systems using computer vision and machine learning. Conducted initial testing on the rhinoceros Glen's exhibit, which includes multiple cameras and viewing angles.
- Led communication between the academic research team and zoo animal care staff to ensure alignment between technical development and practical application.
- Contributed to the integration, optimization, and testing of the SAMURAI model (based on Meta's SAM2 by researchers at the University of Washington) for state-of-the-art video object tracking on live surveillance footage.
- Produced summary statistics and visualizations to support zookeeper insights, including movement paths and section usage metrics.
- Supported implementation of a fine-tuned YOLOv11 for initial object detection on the rhinoceros exhibit.

Stream Gauge Records for Channel Change *WWU Undergraduate Capstone Project*
Senior Project Collaborator *September 2022 – June 2023*

- Participated in a client-driven study with the WWU Geology Department on river incision and aggradation using United States Geological Survey (USGS) stream gauge records across the western U.S., contributing to the continuation and expansion of the client's ongoing project.
- Focused on data collection and development of the interactive user interface to display regional patterns of channel change.
- Led client-facing communication to ensure alignment with stakeholder needs.
- Assisted in refining an NLP model to extract valid sites from unstructured survey notes, and in developing a pipeline for continuous, automated data collection across the United States.

TheStims – Gamified ASD Education *WWU Technology for Social Good Capstone Project*
Team Developer *September 2023 – December 2023*

- Collaborated on the design and development of a narrative-driven educational game to raise awareness about Autism Spectrum Disorder (ASD).
- Helped build interactive mechanics where players manage aspects of daily life—energy, reputation, and school/work—through various ASD perspectives.
- Co-developed the application framework with a focus on accessibility, scalability, and social impact.
- Contributed to all stages of development, including writing, implementation, and team coordination.

Skills

Programming: Python, R, SQL, Java, Git, JavaScript, HTML/CSS, Bash
Libraries: Pandas, NumPy, Scikit-learn, Matplotlib, Seaborn, PyTorch, TensorFlow

Relevant Courses

Fundamentals in Data Science, Object Oriented Design, Database Systems, Analysis of Algorithms I & II, Multivariate Statistics, Formal Languages and Functional Programming, Computer Programming, Linear Data Structures, Probability and Statistical Inference, Secure Software Development, Computational Animal Welfare.