

DANIEL HINTZ

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EDUCATION

University of Wyoming

August 2020 – Present

MS in Statistics

Thesis Title: An Exploration of Information Loss in Transformer Embedding Spaces for Enhancing Predictive AI in Genomics

MS in Economics

Thesis Title: How Does Renewable Portfolio Standards Impact Carbon Emissions at the State Level, by Sector?

WORK EXPERIENCE

Graduate Researcher at UWYO's Advanced Research Computing Center (ARCC)

Laramie, Wyoming

Part-time

July 2023 – present

Collaborating with the Mayo Clinic, Argonne National Labs, the NCAR Wyoming Supercomputing Center (NWSC), Oracle, Wyoming INBRE, and Wyoming Public Health Laboratory to develop a pipeline using Inverse Reinforcement Learning (IRL) to predict the mutation trajectory of colorectal cancer for Mayo Clinic patients.

Western Ecosystems Technologies (WEST) Internship

Laramie, Wyoming

Full-time

May 2023 – August 2023

Generated time series forecasts to predict Jackson Lake's level elevation, which informed the Colter Bay Marine's operations and infrastructure updates on behalf of the US National State Park Service.

Wyoming Public Health Lab's Bioinformatics Internship

Cheyenne, Wyoming

Full-time

May 2022 – August 2022

Building Docker Containers for Bioinformatic Pipelines

Wyoming Public Health Laboratory Externship

Laramie, Wyoming

Full-time

August 2022 – May 2023

Adapted bioinformatic pipelines for taxonomic profiling of metagenomic data

TEACHING

Nextflow Workshop

Laramie, Wyoming

half-day, co-lead

April 12, 2022

Workshop title: "Building Parallelizable Pipelines for Scientific Computing"

Devtools for Scientific Computing

Laramie, Wyoming

half-day, lead

November 16, 2023

Workshop title: "Devtools for Scientific Computing, A Introduction to Bash, Conda, Git and VS-code"

SKILLS

Python (Intermediate proficiency): Comfortable with data wrangling, data visualization as well as data structures (lists, tuples, dictionaries, sets), with limited to intermediate experience with functional programming, object-oriented programming principles, metaprogramming, concurrency, and unit testing, albeit with a strong familiarity with the pandas, NumPy, Matplotlib, Plotly and the PyTorch libraries

R (Advanced proficiency): Vectored functions, package development, Xaringan presentations, Rmarkdown, ggplot2, plotly, multi-core processing, shiny, S3/S4 OOP, data wrangling, data visualization and an advanced familiarity with packages tailored for statistical modelling; including stats, MASS, lme4, car, nlme, lmerTest, VCA, mixlm, rstan, and rjags to name a few

Other Coding Languages: SAS, Jags, Bash/UNIX, SLURM, git, conda and SQL (PostgreSQL, pgAdmin) with moderate proficiency; as well as nextflow, Stan, Portable Batch System (PBS), docker and C/ C++, Tableau and Visual Basic with a working yet narrow proficiency

Prediction and Inference: Traditional ML (Random Forests, Support Vector Machines, etc), Deep Learning (PyTorch) including NLP and Time Series forecasting, Design and Analysis of Experiments, Bayesian Statistics, Multivariate Statistics, General Linear Models, and Geospatial statistics

REFERENCE

Dr. Tim Robinson: tjrobin@uwyo.edu