DANIEL HINTZ

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[LinkedIn](#) ⋄ [GitHub](#) ⋄ [Website](#)

EDUCATION

University of Wyoming   *August 2020 – Present*

<u>MS in Statistics</u>
Thesis Title: An Exploration of Information Loss in Transformer Embedding Spaces for Enhancing Predictive AI in Genomics
<u>MS in Economics</u>
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 and risk exposure 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), Transformer Models, 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