

Austin Stephen

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austinstephen.github.io

Education

University of Wyoming

BSCS in Computer Science

BS in Statistics

GPA 3.96/4.0

2019 – May 2023

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Research Experience

University of Wyoming MALLET Lab

Laramie, WY

Automated Machine Learning

September 2021- Current

- Conduct self-led project advancing automated preprocessing to improve predictive performance.
- Build a machine learning pipeline that automatically partitions input data via unsupervised models to expose different substrata of the sample, then trains supervised models for prediction.

Stanford AI Index

October 2020 - January 2021

- Wrote computational experiments benchmarking SAT solvers using R, SLURM HPC scheduler, Docker, and shell scripts.
- Contribution is cited on page 72 of “The AI Index 2021 Annual Report” by the Stanford University Institute for Human-Centered Artificial Intelligence.

Automated Algorithm Selection on QBF Solvers

October 2019 - September 2020

- Ran multiple CPU years of computational experiments using the SLURM scheduler, R, and Docker evaluating algorithms that solve quantified Boolean formulas (QBF).

Carnegie Mellon University

(remote) Pittsburgh, PA

Summer Research Intern REU

May 2021 - July 2021

- Contributed to a new methodology for analysis of player fatigue with in-game tracking data and player performance measures, advised by the director of analytics at the Atlanta Hawks.
- Conducted exploratory analysis with model-based and hierarchical clustering, KNN clustering, PCA, and a range of visualization techniques.
- Studied relationships between covariates with linear regression, Lasso/Ridge regression, GAMs, XGBoost, random forest, and kernel regression.

Industry Experience

Eye to Eye Telehealth

(remote) Denver, CO

Data Scientist Intern

August 2022 - Current

- Advise on experimental design for clinical trials and software considerations for device development.
- Build and validate models of intraocular eye pressure in R to aid in clinicians’ diagnosis of glaucoma.
- Transform raw output from device hardware and clinician data into a structured format using Python.
- Produce reports on clinical trials for FDA consulting group, investors, and founders.

Goldman Sachs

Salt Lake City, UT

Engineering Summer Analyst in Credit Risk

June 2022 - August 2022

- Developed a Python application generalizing calculations on a set of retail credit products for the firm.
- Designed and implemented an algorithm for work partitioning on a distributed computing cluster to process risk exposure calculations at the production scale of the portfolio.
- Received a post-graduation full time return offer.

Publication/Article Contributions

Stephen, A., Yep, M., and Fain, G. "Tired of Misattribution, Modeling Player Fatigue in the NBA". December 2021. arxiv.org/abs/2112.14649

Zhang, Daniel, et al. (**Pg. 72**) "The AI Index 2021 Annual Report." Stanford University. aiindex.stanford.edu/wp-content/uploads/2021/11/2021-AI-Index-Report_Master.pdf

Academic Presentations & Talks

Carnegie Mellon Sports Analytics Conference (virtual) **Pittsburgh, PA**
"Modeling Player Fatigue in the NBA" November 2021

Presented findings on player fatigue to ~100 conference attendees from academia and industry.

Tech Talk Laramie **Laramie, WY**
"Modeling Player Fatigue in the NBA" September 2021

Presented findings on modeling player fatigue to software developers, faculty, and students at UW.

Carnegie Mellon CMSAC Project Showcase (virtual) **Pittsburgh, PA**
"Modeling Player Fatigue in the NBA" July 2021

Delivered findings on player fatigue to faculty at CMU and industry leaders in sports analytics.

Wyoming Research Scholar Virtual Symposium (virtual) **Laramie, WY**
"Improving Automated Machine Learning" November 2020

Detailed project successes on incorporating algorithm features into algorithm selection models.

Fellowships and Scholarships

Wyoming Research Scholar Undergraduate Fellowship 2019-2023 (renewed annually)
\$26,700 of funding received in wages, compute resources and conference travel paid over four years with annual renewal for satisfactory research progress.

Trustee Scholarship Awarded Fall 2019
Full-ride merit scholarship that covers tuition, housing, and a dining plan for four years of study.

Awards

Candidate for Honors Minor (2023): Awarded for interdisciplinary coursework and senior thesis.

First Place in the TAMU Datathon (2021): Challenge put on by Goldman Sachs.

President's List (2019-2021): Awarded for a semester with a 4.0 GPA.

Dean's List (Spring 2022): Awarded for a semester with above a 3.75 GPA.

Programming Languages

Extensive Experience: R and Python

Moderate Experience: SQL, Haskell, and C/C++

Basic Experience: Java, JavaScript, and HTML/CSS

Selected Projects

Complete portfolio of sample work: austinstephen.github.io

TAMU Datathon Goldman Sachs Challenge, "Lets Stock About the Environment"

First place finish in 24-hour challenge modeling the relationship between stock market volatility and the environment. devpost.com/software/394698

Personal Interest, “Optimize Recruiting for Collegiate Cross Country”

Developed a proposal to aid college cross-country teams with their resource allocation to optimize team placement at major competitions. Used ParseHub and R.

Senior Design Project (in progress), “Peak Processing”

Developing a web application that predicts a mountain peak name from an uploaded image and device location. Will use computer vision, inference from geographic data, web scraping.

Memberships

Equality in Computing Student Organization: Member since 2021

Upsilon Pi Epsilon: Member since 2021

Volunteering and Community Outreach

Equality Reading Group (2022): Organized and led a department wide reading group on equality in computing.

Science Fair (2021): Judged for high school science fair.

Community Food Drive (2021): Helped organize a food drive during the COVID-19 lockdown.

Big Event (2019): Single day of performing small tasks supporting the Laramie community.

Habitat for Humanity (2019): Volunteer labor building homes.

Goins Elementary (2019): Elementary classroom aid.