Austin Stephen

2512 Willet dr. Mailbox #87
Laramie, WY 82072
astepehn@uwyo.edu
307.421.7123
https://austinstephen.github.io/

Research Interests

Automated algorithm selection, automated machine learning, statistical inference in sports, big data in medicine, and the diffusion of research from academia to industry.

Education

University of Wyoming — **Laramie, Wyoming**
Candidate for BS in Computer Science — 2019 - 2023
Candidate for BS in Statistics with minor in Honors College — **GPA 4.0/4.0**
Trustee Scholar, 4-year academic full ride
Wyoming Research Scholar (WRSP), $26,700 in research funding over 4 years

Research Experience

University of Wyoming MALLET lab — **Laramie, Wyoming**
Undergraduate Research Fellow in AI, Funded by WRSP — October 2019 - Current

- Automated Algorithm Selection
  - Worked as part of a project that showed a new state of the art in algorithm selection by incorporating algorithm features into algorithm selection models. My contribution extended the methodology to separate problem domain.
  - Contributed a Quantified Boolean Formula algorithm selection scenario to current ASLIB library.
  - Used SLURM High Performance Computing schedular, R and Bash scripting to run suite of experiments and formalize the results.
- Stanford AI Index
  - Ran a suite of computational experiments included in the 2021 AI index, referenced on pg. 72.
  - Automated the experimental procedure to run over 100 thousand individual jobs using the HPC cluster at the University of Wyoming with multiple CPU years of work.

Carnegie Mellon University REU — **Pittsburgh, Pennsylvania**
Summer Statistics Research Intern — May 2021 - July 2021

- Selected as part of a 15-person cohort to work on research in statistics and data science.
- Received instruction in a set of statistical methods
  - Model-based and hierarchical clustering, principal component analysis, GAMs, KNN, random forest, gradient-boosted trees, kernel regression, simple linear regression, logistic regression, multiple logistic regression, and shrinkage techniques like Lasso and Ridge regression.
- Advised by Max Horowitz, the director analytics at the Atlanta Hawks, I contributed first of its kind analysis on player fatigue in the NBA using in-game tracking data and an aggregation of player performance measures.

Industry Experience

Google Developer Student Club — Laramie, Wyoming
Member — September 2020 – Current

- Attend presentations on Google technologies and talks by keynote speakers.

Men's Wearhouse — Cheyenne, Wyoming
Sale's Associate — July 2017 – August 2019

- Commissioned sales position required advanced interpersonal skills and knowledge of product lines.

Leadership Experience

Alpha Kappa Psi — Laramie, Wyoming
Director of Community Service — August 2020 - May 2021

- Coordinated 30-person chapter's community service events through the pandemic.

Publications

Modeling Player Fatigue in the NBA — Pittsburgh, Pennsylvania
Lead author of paper, publication pending — August 2021
Details work completed in the summer of 2021 that shows how the narrative around fatigue in the NBA is misleading.

Article Contributions

Stanford 2021 AI Index — Laramie, Wyoming
Experimental Data Contributor (pg. 72) — December 2020
Zhang, Daniel, et al. "The AI Index 2021 Annual Report." Stanford University. index.stanford.edu/wp-content/uploads/2021/03/2021-AI-Index-Report_Master.pdf

Presentations

Carnegie Mellon Sports Analytics Conference** — Pittsburgh, Pennsylvania
"Modeling Player Fatigue in the NBA" — *November, 2021*
Will present on findings on player fatigue to conference attendees from academia and industry.

Tech Talk Laramie — Laramie, Wyoming
"Modeling Player Fatigue in the NBA" — September 2021
Presented findings on modeling player fatigue to software developers, faculty at UW, and students at UW.

Carnegie Mellon CMSAC Project Showcase — Pittsburgh, Pennsylvania
"Modeling Player Fatigue in the NBA" — July 2021
Delivered findings on player fatigue to faculty at CMU, and industry leaders in the NBA, NFL, and NHL.

Wyoming Research Scholar Virtual Symposium — Laramie, Wyoming
"Improving Automated Machine Learning" — November 2020
Detailed successes on incorporating algorithm features into algorithm selection models.

Languages

Extensive Experience: R

Moderate Experience: Bash Shell Scripting, Python, and C/C++

Basic Experience: X86 assembly language, Java, JavaScript, PSQL, and Html/CSS

Awards & Memberships

Upsilon Pi Epsilon: member since 2021

Ultimate Frisbee Student Organization: member since 2021

Trustee Scholarship: 4-year academic full ride at the University of Wyoming

President's List: 19-20, 20-21 academic years

Academic All-American: Awarded for high school GPA and ranking in the NSDA.