W. Zachary Horton

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Education

University of California, Santa Cruz **Sept.2019–Current**
PhD, Statistical Science *Santa Cruz, CA*
- External fellowships: ARCS Scholar (2021/2023), Koerner Family Fellow (2022)
- Studying Bayesian nonparametric models for renewal processes

Brigham Young University **Aug.2017–Aug.2019**
MS, Statistics (Integrated MS/BS) *Provo, UT*
- Fully funded by academic scholarships
- Thesis published in Technometrics: *Template Priors in Bayesian Curve Registration*

Brigham Young University **Jan.2015–Aug.2019**
BS, Actuarial Science *Provo, UT*
- Overall GPA: 3.94, Major GPA: 4.0
- Graduated in top 5% (Magna Cum Laude)
- Dean's list and university scholarships throughout

Relevant Experience

Quant Researcher **Feb.2020–Current**
Double River Investments *Lehi, UT*
- Part-time work during academic year alongside PhD studies
- Research and develop alpha signals for long-short market-neutral strategies
- Enhance forecasts using non-linear regression techniques and tree-based ML models
- Improve factor-based return predictions using online outlier detection

Academic Collaborator **Aug.2020–Current**
UNC Exercise and Sports Science Dept. *Chapel Hill, NC*
- Develop and code modeling protocols to analyze biomechanical waveform data
- Consult with researchers regarding customization or adjustments
- Write approachable model summaries for publications in non-stats journals
- Co-authored on 8 papers in exercise science journals with more on the way

Actuarial Consulting Intern **May.2017–Aug.2017**
Aon - Health and Benefits *Denver, CO*
- Worked with client data to set health policy prices
- Conducted detailed accuracy checks for coworkers' reserve models
- Led the transfer of a large pricing model to Aon's web-based system

Course Instructor / Teaching Assistant **Sep.2019–Current**
UCSC Statistics Dept. *Santa Cruz, CA*
- Instructor of record for 7 quarters, TA assignments for 6
- Taught a graduate-level modeling and computing class for 2 quarters
- Praised for clear communication skills in student reviews
- Proactively updated course content to improve quality
- Served as grad student rep for a year

Skills and Awards

Communication
- Best Speaker award at j-ISBA BAYSM 2023
- Student presentation award at ARC 2019

Programming
- 8 years R experience, 3 years Julia experience
- Familiar with Python, Tableau, JMP
- Rudimentary package development (see Github)

Modeling Techniques
- Regression: linear, splines, LASSO, GLM
- Time-series: ARIMA, dynamic linear models
- BNP: Gaussian process, Dirichlet process mixtures
- Point-process: hazard modeling, renewal processes
- Multivariate: PCA, tree-based ML models
- Other areas: survival, spatial, functional, MCMC