Amelia Taylor

Bend, OR
ajt@ameliajtaylor.com
www.linkedin.com/in/ameliajtaylor

Home: (719) 287-8978
ameliajtaylor.github.io
github.com/ameliajtaylor

Experience:

- **Data Scientist, II**, *Zymergen, Inc*, Bend, OR — October 2016 - Present
  - Technical Lead for cross-functional collaborative product team building a product that cuts analytical time for plate process development by 70%, makes experiments and analysis repeatable, and designs and stores data for improved analysis and future predictive models.
  - Developed algorithms, worked with team to productionize, and provide ongoing support for model selection and hyper parameter tuning for unsupervised outlier detection. Patent pending and presented at PyBay `https://youtu.be/gOSz5SFJAI4`.
  - Designed and and worked cross-functionally to productionize data model critical to data science team that is now used company wide and consider critical infrastructure.
  - Automated outlier detection model saving 2 hours per week per client.
- **Consultant**, *Mathematical Sciences Research Institute*, Bend, OR — October 2017 - December 2018
  - Conducted seven year study of postdoctoral fellowship program. Updated existing survey to adhere to current best practices and analyzed results in R as primary author of the final report.
- **Consultant**, *Insight Data Science*, Seattle, WA — September - November, 2017
  - Taught probability course and mentored fellows in technical development of products and interview preparation.
- **University Professor**
  - **Instructor**, *Oregon State University - Cascades*, Bend, OR — September 2015 - June 2016
  - **Associate Professor** (tenured), *Colorado College*, Colorado Springs, CO — July 2012 - May 2016
  - **Assistant Professor** (tenure-track), *Colorado College*, Colorado Springs, CO — August 2006 - July 2012
  - **Assistant Professor** (tenure-track), *St. Olaf College*, Northfield, MN — August 2003 - July 2006
  - **VIGRE Hill Assistant Professor** (postdoctoral fellow), *Rutgers University*, Piscataway, NJ — 2000-2003
  - Leadership
    - Supervised 11 full time faculty, 7 part time faculty and 2 staff. (Department Chair)
    - Coordinated all daily operations of the department, including two major personnel reviews, an external review of the department, course scheduling, weekly speaker series and budgeting process. (Department Chair)
    - Coordinated department assessment team for two years. Developed outcomes, rubrics and feedback loops.
    - Organized 6 intense week-long workshops of 25+ people.
  - Data Science
    - Developed a statistically powerful method for inferring phylogenetic trees using representation theory. Implemented algorithm for inference and simulation data tests in R.
    - Converted Statistical Modeling and Probability Theory course to being taught using R.
    - Developed and published an algorithm for computing a monomial ideal invariant using reverse search.
    - Developed a Monte Carlo based method for fast computation of a key invariant in commutative algebra.

Skills:

- **Languages:** Python, R, Java*, Mathematica, Macaulay2, SQL, Minitab*, Matlab*, Maple* — *some experience
- **Tools:** Pandas, NumPy, SciPy, Scikit-Learn, Matplotlib, ggplot2, dplyr, Flask, Jenkins, Docker, Jupyterhub, Binderhub, Jupyter, Git, LaTeX

Education:

- **Ph.D., Mathematics**, *University of Kansas*, Lawrence, KS — May 2000
- **M.S., Mathematics**, *Purdue University*, West Lafayette, IN — May 1997
- **B.A., Mathematics**, *St. Olaf College*, Northfield, MN — May 1994
  Magna Cum Laude, with Distinction