Trever T. Hines

Education

2012–present **PhD candidate Geophysics (certificate in Computational Engineering)**, *University of Michigan*, Ann Arbor, MI

2008-2012 **BS Geology**, *University of Illinois*, Urbana-Champaign, IL

Research Experience

2012–present **Graduate student research assistant**, *University of Michigan*

- Developed software to detect spatially and temporally coherent features in ground motion data
- Introduced novel techniques to infer the geophysical processes causing observable ground deformation

2011 **Ecological modeling intern**, *Smithsonian Environmental Research Center*

- Used R and ArcGIS to create statistical models describing blue crab populations in Chesapeake Bay

Teaching Experience

2014–2016 **Graduate student instructor**, *University of Michigan*

- Instructed labs for a graduate level course on data analysis and inverse theory
- Topics included statistical hypothesis testing, uncertainty quantification with bootstrapping, and model selection techniques such as cross validation and Bayesian information criterion.

2015 **Michigan Math and Science Scholars instructor**, *University of Michigan*

- Co-taught a summer course for high school students on the mathematics of natural hazards

Proficiencies

- Geospatial analysis using free software packages such as Basemap and Shapely
- Bayesian statistics and supervised machine learning
- Python, Cython, MATLAB, R, Bash, LaTeX

Recent Publications

2017 Hines, T. T., and E. A. Hetland. Unbiased characterization of noise in geodetic data. submitted to *Journal of Geodesy*

2016 Hines, T. T., and E. A. Hetland. Rheologic constraints on the upper mantle from five years of postseismic deformation following the El Mayor-Cucapah earthquake. *J. Geophys. Res.*, 121, doi: 10.1002/2016JB013114

2016 Hines, T. T., and E. A. Hetland. Rapid and simultaneous estimation of fault slip and heterogeneous lithospheric viscosity from post-seismic deformation. *Geophys. J. Int.*, 204, doi: 10.1093/gji/ggv477

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