

Marc Kjerland, PhD

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Skills

- Predictive modeling
- Nonlinear and multiscale processes
- Numerical simulation
- High-performance computing
- Machine learning
- Algorithm development
- Geophysical modeling
- Data visualization

Experience

- 2019 – Present **Bank of America (contract)**, *Senior Data Scientist*, Quantitative Services.
- Delivered decision tree classifier to supplement internal labeling system
 - Developing deep learning model for investment banking team
 - Providing R&D support for stochastic risk models
- 2018 – 2019 **Verisk Analytics**, *Data Scientist*, Insurance Services Office.
- Project Lead on insurance analytics team of six data scientists
 - Improved models for personal auto liability losses by 43% – 80%
- 2017, 2014–2015 **University of Illinois at Chicago**, *Postdoctoral Fellow*, Institute for Environmental Science and Policy.
- Developed non-parametric performance metrics for urban sustainability
 - Published insights using linear optimization and predictive modeling
- 2015 – 2017 **Kyoto University**, *Postdoctoral Researcher*, Disaster Prevention Research Inst.
- Developed storm surge simulations using meteorological and topographical data
 - Quantified hazard impacts of changing typhoon distributions in Pacific Ocean

Education

- 2015 **PhD, Applied Mathematics**, *University of Illinois at Chicago*.
Thesis: Linear response closure approximations for multiscale systems
- 2005 **B.S., Mathematics**, *University of Minnesota, Twin Cities*.

Technical skills

Programming languages: Python, SAS, C/C++, Fortran, Matlab/Octave
Natural languages: English, French, German, Japanese
Other: Excel, SQL, L^AT_EX, Bash, GitHub, QGIS

Research Papers

- 2019 **Journal of Cleaner Production**, *Sustainability Assessment of Universities as Small-Scale Urban Systems: A Comparative Analysis Using Fisher Information and Data Envelopment Analysis*. Vol 212.
- 2017 **Proceedings of Coastal Dynamics 2017**, *Estimating climate change impacts on storm surge using adaptive mesh refinement*.

- 2016 **Hydrological Research Letters**, *Impact assessment of climate change on coastal hazards in Japan. Vol 10.*
- 2016 **Communications in Mathematical Sciences**, *The response of reduced models of multiscale dynamics to small external perturbations. Vol 14, No 3.*