

Dr. Yara Mohajerani

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Passionate about data analytics with extensive experience in neural networks and deep learning, Bayesian hierarchical modeling and various other statistical techniques applied to big data in remote sensing as part of my PhD research. Co-Founded Mobius Loop Inc. as part of my interest in applications of data analytics and machine learning for improved efficiency and deeper insights.

EXPERIENCE AND PROJECT HIGHLIGHTS

Machine Learning in Environmental Remote Sensing *UC Irvine, December 2017 – Present*

- Developed neural network and processing pipeline for automatic delineation of glacier calving fronts from satellite imagery. Currently working on expanding the pipeline for more generalizability.

Analysis of Large-Scale Satellite Remote Sensing Data *UC Irvine, September 2014 – Present*

- Designed and implemented research on satellite gravity and altimetry remote sensing, dealing with large spatiotemporal data, cloud computing, and interpretation of data.

Co-Founder / CIO / ML Engineer *Mobius Loop Inc., May 2014 – December 2016*

- Co-founded startup for ML-based discounting mobile app and content recommendation.
- Led development of user taste profile construction as CIO and ML engineer.

Research and Development of Python pipelines in Atmospheric Physics *U of Toronto, May 2013 – April 2014*

- Developed Python pipeline for analyzing relationship between Eurasian snow and atmospheric circulation.
- University of Toronto, Centre for Global Change Science

Research and Data Analysis in Astronomy *U of Toronto, December 2009 – August 2010*

- Processing pipeline (Java) and analysis of luminosity time-series data from star systems

EDUCATION

Ph.D. in Earth System Science, University of California, Irvine (*CGPA 4.00/4.00*) *December 2019*

M.S. in Earth System Science, University of California, Irvine (*CGPA 4.00/4.00*) *December 2016*

Honours B.Sc. in Physics & Mathematics with High Distinction, U of Toronto (*CGPA 3.89/4.00*) *June 2014*

CERTIFICATES

Data Science Certificate - UC Irvine Data Science Program *June 2017*

Scientific Writing and Publishing - Nature Journal Masterclasses *May 2017*

TECHNICAL SKILLS

Python proficiency	Linux/Unix Systems
Machine Learning (TensorFlow, Keras)	Project management with Git/Github
Neural Network architectures (DNN, CNN, RNN)	Familiarity with MATLAB, Julia, R, STELLA
Bayesian Stochastic Modelling (Stan/PyMC3)	Geospatial data analysis
Bash, HPC, Slurm, Cloud Computing	Geographic Information System (GIS)
Parallel Processing (MPI, multi-threading)	Latex, Markdown, and familiarity with HTML

SELECT PUBLICATIONS AND MEDIA HIGHLIGHTS

- Mohajerani, Y. et al. “Evaluation of Regional Climate Models using Regionally-Optimized GRACE Mascons in the Amery and Getz ice shelves basins, Antarctica” *Geophysical Research Letters*. 46 (2019): 13,883-13,891.
- Mohajerani, Y. et al. “Detection of Glacier Calving Margins with Convolutional Neural Networks: A Case Study.” *Remote Sensing* 11.1 (2019): 74.
- Mohajerani, Y. et al. “Mass Loss of Totten and Moscow University Glaciers, East Antarctica, Using Regionally Optimized GRACE Mascons” *Geophysical Research Letters* 45.14 (2018): 7010-7018.
- Featured in *National Geographic*: “We Know West Antarctica Is Melting. Is the East In Danger, Too?” Aug. 9, 2018