

# Jeffrey Mei

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## EDUCATION



[Personal website](http://jeffreymeigithub.io/)

**Massachusetts Institute of Technology**, Cambridge, MA

**Woods Hole Oceanographic Institution**, Woods Hole, MA

Ph.D., MIT-WHOI Joint Program in Applied Ocean Science & Engineering, expected August 2020, GPA: 4.7/5.0

- Dissertation: "Morphological Approaches To Understanding Sea Ice Thickness"

**New York University Abu Dhabi**, Abu Dhabi, UAE

B.S. *cum laude*, May 2015. Major in Physics and Mathematics, GPA: 3.8/4.0

- New York University Honors Scholar, 2015

- Semester study abroad at NYU Berlin/Humboldt-Universität zu Berlin, Spring 2013

- Awarded full scholarship to NYU Abu Dhabi, 2011-2015

## RESEARCH EXPERIENCE

**Graduate Research Assistant**. MIT/WHOI, Woods Hole, MA, 2015-present

- Applied convolutional neural networks to sea ice imagery to infer ice thickness from topography and visualized the learned filters using OpenCV and PyTorch

- Collected sea ice thickness data and surface topography laser scans during 3-month winter fieldwork in Antarctica

- Created an interactive GUI for processing sea ice imagery (segmentation, floe delineation) using OpenCV

- Wrote code for compiling and visualizing satellite data interactively using Holoviews and Bokeh modules, as part of ICESat-2 Hack Week sponsored by the University of Washington ([/ICESat-2HackWeek/Snowblower.git](https://github.com/ICESat-2HackWeek/Snowblower))

- Authored peer-reviewed publication in *The Cryosphere* ([doi:10.5194/tc-2019-140](https://doi.org/10.5194/tc-2019-140), "Estimating Early-Winter Ice Thickness From Deformed Ice Morphology.")

**Undergraduate Research Assistant**. NYU Abu Dhabi, 2014-2015

- Developed novel method for localizing cracks in glaciers using seismic signals

- Visualized seismic spectrograms using Python to create a frequency bandpass filter, with automated detection of seismic shock wave onset

- Authored peer-reviewed publication in *The Cryosphere* ([doi:10.5194/tc-11-609-2017](https://doi.org/10.5194/tc-11-609-2017), "Calving localization at Helheim Glacier using multiple local seismic stations.")

## TEACHING AND LEADERSHIP EXPERIENCE

**Elements of Modern Oceanography**, MIT, Fall 2018

Teaching Assistant

- Explained physical oceanographic concepts to first-year graduate students, including some with no prior physics experience

- Improved scientific rigor of students' research projects with one-on-one feedback

**Summer Math Review**, WHOI, 2017-2018

Organizer and instructor

- Organized courses and assigned instructors for summer math review for incoming graduate students

- Prepared class notes (LaTeX) for and taught classes in ordinary and partial differential equations, data analysis, numerical methods

**MIT Badminton Club**, MIT, 2016-2020

Treasurer 2016-2019, President 2019-2020

- Managed club financials, including equipment ordering and fundraising

- Organized player registration, facilities reservations and liaised with sponsors for the Boston Open (2nd-largest badminton tournament in the USA)

## OTHER SKILLS

Fluent in English, Mandarin Chinese, German; intermediate level of Russian

Experienced with Python (NumPy/SciPy/OpenCV/PyTorch/Pandas), SQL, LaTeX, Linux

PADI-certified Open Water Diver