# T. BEN THOMPSON

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## EDUCATION

**Harvard University** *May 2019*
Ph.D., Earth and Planetary Science

**Massachusetts Institute of Technology** *June 2013*
B.S., Earth, Atmospheric and Planetary Science

## SKILLS

- **Relevant Skills:** Software and data engineering, machine learning, statistics, numerical mathematics
- **Languages/tools:** Python (NumPy, Pandas, etc.), C++, CUDA, SQL, Spark, AWS, Git, Linux

## EXPERIENCE

**QuantCo** Machine Learning Engineer
*December 2017 - present* *Boston, MA*

- **E-commerce demand forecasting:**
  - Technical lead for a machine learning system that forecasts sales for 2 million products and $4 billion of revenue.
  - Crafted a novel time-series early-stopping technique to minimize overfitting, simultaneously improving model accuracy and reducing model training time from one week to two hours.
- **Data science tech enablement:** Helped economists analyze big data and build high performance production data and prediction systems.
- **Statistical software development:** Implementing and parallelizing numerical optimization algorithms for modeling in e-commerce and P&C insurance.

**Harvard University** Graduate Student
*Sept 2013 - May 2019* *Cambridge, MA*

- **Numerical software:** Developed and implemented computational methods enabling three-dimensional geometrically accurate GPU-accelerated earthquake simulation. (paper)
- **Earthquake science:** Used geometrically realistic simulations of earthquake activity in the Pacific Northwest to identify common magnitudes and spatial extents of damaging events. (paper)
- **Machine learning:** Trained networks to compute complex viscous and elastic physical behavior 500x faster than prior numerical methods. (paper)
- Creator/maintainer of cppimport, a popular tool to ease interfacing C and C++ with Python.

**Oak Ridge National Lab** Researcher
*Sept 2015 - Nov 2015* *Oak Ridge, TN*

- Developed tools for automatically parallelizing complex calculations over supercomputers.

**TherapyCharts/iQGuys** Software Engineer
*June 2007 - September 2011* *Ann Arbor, MI*

- Designed, built and successfully launched a web-based electronic health record system for therapists using Python, PostgreSQL, and Javascript.