

T. BEN THOMPSON

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EDUCATION

Harvard University

Ph.D., Earth and Planetary Science

May 2019

Massachusetts Institute of Technology

B.S., Earth, Atmospheric and Planetary Science

June 2013

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

December 2017 - present

Machine Learning Engineer

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:** Developing, optimizing, and parallelizing algorithms for modeling in e-commerce and P&C insurance.

Harvard University

Sept 2013 - May 2019

Graduate Student

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](#))
- **Deep 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

Sept 2015 - Nov 2015

Researcher

Oak Ridge, TN

- Developed tools for automatically parallelizing complex calculations over supercomputers.

TherapyCharts/iQGuys

June 2007 - September 2011

Software Engineer

Ann Arbor, MI

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