

## Julian Schmitt

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GitHub: <https://github.com/Julians42>

### Education

#### HARVARD UNIVERSITY

A.B Candidate in Applied Mathematics, GPA: 3.93

Focus Field in Earth and Planetary Sciences, Secondary in Statistics

**Harvard Detur Prize** (given to the top 5% of Harvard Freshman Class based on GPA), **John Harvard Scholar**

*Relevant Coursework: Multivariable Calculus, Linear and Abstract Algebra, Real and Complex Analysis, Numerical Methods and Operations Research, Probability, Inference, Unsupervised Learning, Data Science and Neural Networks*

**Technical:** Julia, Python, R, AWS EC2 and S3, Docker, HTML/CSS, MS Office. Exposure to C/C++, SQL.

**Budapest Semesters in Mathematics:** *Combinatorial Optimization*

Cambridge, MA

May 2023

**Middlebury Union High School**

Valedictorian, SAT: 1530 – M:800, V: 730, Vermont Scholar

Jan – May 2021

Middlebury, VT

Sept 2014 – June 2018

### Experience

**NOAA Physical Sciences Lab. /Geophysical Fluid Dynamics Lab. (GFDL)**

*NOAA Hollings Scholar*

Boulder, CO / Princeton, NJ

May 2021– Present

- Investigating snow drought characteristics using datasets of historical and future scenarios from a large ensemble climate model (SPEAR-MED LE). Research conducted in python using remote SSH.
- Presented results to 40 GFDL faculty, researchers, and students. Presenting at AMS in January 2022.

**Harvard Seismology Group** (PI Marine A. Denolle)

*Undergraduate Research Assistant (Full Time May - Aug 2020, Jan - May 2021)*

Cambridge, MA

Feb 2020- Dec 2021

- Built a Julia workflow for high-performance seismic data analysis on the AWS cloud.
- Navigated tools such as AWS EC2 and S3 interfaces, parallel computing in Julia, bash scripting, docker images, and collaborating using GitHub.
- Deployed my workflow to constrain ground motion for a future LA area earthquake using 100 times more data than a 2014 study. Created visualizations for processed data.
- Lead a project to develop a California-wide database of processed seismological data for tomography and monitoring applications using 100s of terabytes of raw data.

**Harvard Data Analytics Group**

*Case Team Associate*

Cambridge, MA

Feb – May 2021

- Led the development of a machine learning model to automate the grading of student writing samples for an ed-tech start-up. Merged team members programs into one workflow and testing several machine learning algorithms. Improved modeled grading accuracy by 90% over the semester-long project.

**Harvard Undergraduate Consulting for Business and the Environment**

*Case Team Member*

Cambridge, MA

Feb – May 2019

- Developed a linear programming model to provide client with the most cost-effective disposal solution for waste. Built a website to host the model and deploy other tools developed by case team members.

### Leadership and Activities

**Harvard Varsity Nordic Skiing**

*Varsity Nordic Ski Team Member*

Cambridge, MA

Sept 2019 – Present

- Represent skiing on the Student Athlete Advisory Committee. Commit 15 – 20 hours weekly. Walk-on.

**Applied Math Peer Concentration Advisor (PCA)**

*PCA Mentor Co-Captain*

Cambridge, MA

Aug 2021 – Present

- Coordinate the applied math advising team by facilitating 50 advisor/advisee pairings and 2-3 events per semester.

### Skills & Interests

**Interests:** Trumpet (lead for the VT All-State Jazz Band, New England Concert Band), energy and climate change, hiking and trail running. **Language:** French (conversational)