

- Assisted Data Structures students in their understanding of course concepts, including sorting algorithms, hashing, trees, stacks, queues, and linked lists.
- Helped students plan out and debug course assignments and projects written primarily in C++.

Leadership

Harvard University Graduate School of Arts and Sciences Student Council

Cambridge, MA

DEPARTMENT REPRESENTATIVE

Jan. 2020 - PRESENT

- Represent the Institute for Applied Computational Science and Computational Science & Engineering students on the Graduate Student council.

Baseball Analysis at Tufts

Medford, MA

PRESIDENT & TREASURER

Jan. 2012 - May 2015

- Performed extracurricular statistical baseball research and data analysis.
- Visualized the results of these analyses and present them to fellow Sabermetricians and MLB executives.
- Compete in the SABR Analytics Conference Case Competition as part of Tufts' Baseball Analysis team.

Projects

CyCIF Viewer

[HTTPS://GITHUB.COM/LABSYSPHARM/CYCIF_VIEWER](https://github.com/Labsyspharm/cycif_viewer)

- A flexible and scalable application for the analysis and display of multiplexed cell tissue data.
- Developed between the Visual Computing Group at the Harvard John A. Paulson School Of Engineering And Applied Sciences and the Laboratory of Systems Pharmacology at Harvard Medical School.

Bias in NLP Embeddings

[HTTPS://WARCHOL.MEDIUM.COM/BIAS-IN-NLP-EMBEDDINGS-B1DABB8BBE20](https://warchol.medium.com/bias-in-nlp-embeddings-b1dabb8bbe20)

- Assessing bias in NLP embeddings and transformer-based models.
- Using fine-tuning on BERT to mitigate this bias.

Population prediction via CNNs and geospatial imagery

[HTTPS://GITHUB.COM/CHICKERT/GEOSPATIAL_ANALYSIS](https://github.com/chickert/geospatial_analysis)

- Using Google Earth Engine, satellite imagery, and Convolutional Neural Networks to predict the population of US Census Tracts.

Parallel Graph Algorithms

[HTTPS://GITHUB.COM/KAELANELSON/CS205-FINAL-PROJECT](https://github.com/kaelanelson/cs205-final-project)

- Hybrid parallel implementations of graph algorithms in MPI and OpenMP.

Visualizing Mass Incarceration

[HTTPS://CS171-FINAL-PROJECT.GITHUB.IO/FINAL-PROJECT/](https://cs171-final-project.github.io/final-project/)

- Visualizing mass incarceration and the school-to-prison pipeline in the US with D3.

Hidebar

CHROME EXTENSION

- Lightweight chrome extension written in JavaScript and JQuery to dynamically hide and display Reddit sidebars depending on window dimensions and subreddit styling.

DMachine

[HTTPS://GITHUB.COM/SIMONWARCHOL/DMACHINE](https://github.com/simonwarchol/dmachine)

- Visualizing NBA team & player defense using Processing.js.

NBA Height & Weight Trends

[HTTP://SIMONWARCHOL.GITHUB.IO/NBA-HEIGHT-WEIGHT](http://simonwarchol.github.io/nba-height-weight)

- Scraping Basketball-Reference with Beautiful Soup and visualizing the trends in these data with D3

Honors & Awards

Harvard University Graduate School of Arts and Sciences, Q Award of Distinction and Excellence in Teaching for Role as Teaching Fellow for AC207: Systems Development for Computational Science

Cambridge, MA

Tufts University, Dean's List: Fall 2011, Spring 2012, Spring 2013, Fall 2014, Spring 2015

Medford, MA