

SHIMIAN (SAM) ZHANG

4670 Holiday Dr #203, Boulder, Colorado, 80304

(+1) 703-989-5478 ◊ shimian.zhang@gmail.com ◊ <https://sam.zhang.fyi>

SUMMARY

Sam is an aspiring mathematician with a professional background in computer science. In January of 2018, he became a Continuing Education student at the University of Colorado, Boulder to pursue mathematics full-time. He is applying for math graduate programs during Fall of 2018.

EDUCATION

University of Colorado, Boulder , Boulder, CO Continuing Education: Math and Applied Math	<i>January 2018 — Present</i> GPA: 4.0
Swarthmore College , Swarthmore, PA BA: Double Major in Computer Science and Psychology	<i>Fall 2010 - 2014</i> GPA: 3.45

COURSEWORK AND RA/TA EXPERIENCE

Graduate courses (at CU Boulder)

Functional Analysis*[†], Commutative Algebra[†], Convex Optimization[†], Introduction to Number Theory[†], Hilbert Spaces and the Mathematics of Quantum Mechanics

([†]: underway, *: auditing)

Undergraduate courses (at Swarthmore)

Coursework: Computer Networks, Natural Language Processing, Bioinformatics, Operating Systems
Psychology research: <https://tinyurl.com/senior-study>

Research assistantships

- (2018) Summer REU with Prof. Markus Pflaum (Math) at CU Boulder. We rewrote Liber Scientifiae, a free and open source decentralized mathematical text authoring platform, using Ruby on Rails.
- (2013) Summer REU with Prof. Damon McCoy (CS) at George Mason University (now NYU), collecting data on online affiliate advertising networks and malware marketplaces.

Teaching assistantships

TA for MATH 2002: *Number Systems: An introduction to higher mathematics*. The course introduces mathematical proof by constructing the real numbers starting from logic and axiomatic set theory.

EMPLOYMENT

OpenCounter <i>Software Engineer</i>	January 2017 — January 2018 <i>Boulder, CO</i>
--	---

- A startup of 12 people. The official permitting software for over 50 municipalities, including Boston.
- Built the land use search engine at the center of the app. Each municipality has its own taxonomy for land uses, so we augmented a word vector approach with an underlying graph structure. Details: <https://tinyurl.com/land-use-search>.

Pivotal Labs <i>Software Engineer</i>	July 2015 — September 2016 <i>Washington, DC</i>
---	---

- One of the first engineers in the Pivotal Labs DC office. Pivotal Labs is a consultancy with a focus on enabling client teams by pair programming with them.

- Engineering lead on two of the DC office's first projects, with about eight people each. These were nontraditional projects involving scientific Python, Docker, and network protocols.

University of Chicago Data Science for Social Good Fellowship May 2014 — August 2014
Fellow *Chicago, IL*

- Worked with national nonprofit Enroll America on prioritizing efforts to reach uninsured people through predictive (uplift) modeling: <https://tinyurl.com/dssgenroll>.
- Under the guidance of Rayid Ghani, Chief Scientist of the 2012 Obama reelection campaign.
- Interviewed about the project on NPR Marketplace and WBEZ TechShift: <https://tinyurl.com/sam-marketplace>.

PROJECTS

Data for Democracy January 2017 — Present
Volunteer / Organizer *Boulder, CO*

- Started the Boulder Data for Democracy meetup, currently at 155 members. We are a volunteer collective of data scientists that work on social good projects.
- We used the Stanford Open Policing dataset to look for racial bias in our area, and spoke about it on local radio station KGNU: <https://tinyurl.com/kgnu-d4d>.
- We requested jail booking data of homeless people from the Boulder County Sheriff's Office and analyzed it for a University of Denver Law School report on the criminalization of homelessness: <https://github.com/samzhang111/boco-jail-analysis>.
- We held a data hackathon at KGNU with local community radio reporters.

Open Frontpages Project January 2017 — Present
Founder *Boulder, CO*

- A structured database of newspaper frontpages from over 900 unique newspapers, scraped over the last two years, where each piece of text is tagged with bounding box and font metadata.
- A team of researchers, including a media studies professor from MIT, cited my project in their SAGE Concept Grant: <https://github.com/samzhang111/frontpages>.

Southern Poverty Law Center Hatewatch February 2017 — August 2017
Contributor *Montgomery, AL*

- Analyzed scraped data of white supremacist forums with the Southern Poverty Law Center.
- It became a 7-part series: <https://tinyurl.com/splc-series>.
- This work led me to join the (non-SPLC affiliated) group Susan Bourbaki Anthony: <http://www.susanbourbaki.com>.

TECHNICAL STRENGTHS

Languages In descending order: Python, Ruby, Javascript, and Go (long tail omitted).
Ecosystems \LaTeX , scientific Python, modern JS ecosystem (React, d3), Ruby on Rails