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## Tyler Friedman

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### INTERESTS

Peer Production, Computer-Mediated Discourse, Public Affairs Journalism

### EDUCATION

#### Technion – Israel Institute of Technology, Haifa, Israel

Oct 2016 – Mar 2017

Completed 4 credits towards a Master of Science in Electrical Engineering

GPA: 94.5/100

Graduate Student Scholarship (100% tuition waiver and living stipend)

#### University of Michigan, Ann Arbor, MI

Sep 2010 – Apr 2015

Bachelor of Science with Distinction, Computer Science and Mathematical Sciences

GPA: 3.72/4.00

### RELEVANT COURSEWORK

Programming & Data Structures, Computer Game Design, Databases, Algorithms, Coding Theory, Operating Systems, Computer Security, Distributed Functional Programming, Intro to Combinatorics, Probability Theory

### RESEARCH EXPERIENCE

#### Department of Computer Science, Ann Arbor, MI

Undergraduate Researcher (Advisor: **Igor Markov**)

Jan 2014 – Jul 2014

- Competed in the 2014 International Symposium on Physical Design's Detailed-Routing-Driven Placement Contest
- Designed and implemented various approaches to an open problem in integrated circuit design
- Troubleshooted bugs of a foreign 1,000,000-line program with little to no documentation provided
- Placed 7<sup>th</sup> out of 18 teams from around the world

#### Department of Radiology Computer-Aided Detection Lab, Ann Arbor, MI

Undergraduate Researcher (Advisor: **Chuan Zhou**)

Jun 2013 – Aug 2013

- Implemented Prim's algorithm in C and adapted it to help detect pulmonary embolisms in undirected graphs derived from CT scans
- Generated 2D and 3D representations of human arterial trees in MATLAB to improve analysis of minimum spanning tree data

#### Department of Mathematics, Ann Arbor, MI

Undergraduate Researcher (Advisor: **Alejandro Uribe**)

Apr 2012 – Jun 2012

- Studied the spectrum of self-adjoint Toeplitz matrices as a part of a Research Experience for Undergraduates (REU) program, funded by the National Science Foundation
- Developed a solution in MATLAB, and analyzed and demonstrated results in an academic report using LaTeX
- Presented results to a committee of peers in a short talk

### REPORTS

Tyler Friedman. (2015). *Exploring Bounds and Lexicodes*. Produced as part of coursework for MATH 567, Intro to Coding Theory, at the University of Michigan. Available at <https://tyfried.github.io/reports/bounds>.

Tyler Friedman, Alejandro Uribe. (2012). *Towards a Szego Limit Theorem for Berezin-Toeplitz Operators with Singular Symbols*. Produced as part of an REU at the University of Michigan. Available at <https://tyfried.github.io/reports/szego>.

### SKILLS

*Web Frameworks:* Django

*Languages:* Python, C, C++, C#, MATLAB, Erlang, HTML, CSS, jQuery, LaTeX

*Applications:* Git, PDB, Elasticsearch, PostgreSQL, memcached, Celery, RabbitMQ, nginx, gunicorn, borg

## WORK EXPERIENCE

### Ideological Foundation, Inc., Flagstaff, AZ

*Founder, Lead Developer*

*Sep 2017 – Present*

- Built a crowdsourcing website for understanding controversial topics (idealogs.org) in Django
- Mastered fundamentals of full-stack web development including: M-V-T architecture, ORMs, rapid prototyping, responsive design, search, caching, asynchronous task management, VPS hosting, deduplicating backups, and profiling
- Developed idea from infancy to production without prior web development experience or outside help
- Invented a new model for aggregating and refining contextual information
- Managed all aspects of the project including: engineering, financing, corporation formation, and trademark application

### Coconino Community College, Flagstaff, AZ

*Adjunct Lecturer, Mathematics*

*Jan 2018 – Aug 2019*

- Taught algebra to students that struggle considerably with the subject
- Devised lectures with focus on emotional aspects of learning to make courses approachable
- Brought positive energy and humor to lectures to keep students engaged
- Emphasized strong studying habits and pushed students to make connections between time investment and academic achievement

### Transcaucasian Trail Association, Svaneti, Republic of Georgia

*Project Manager*

*Jun 2018 – Sep 2018*

- Provided logistical support to project attempting to connect Black and Caspian Seas via one long-distance hiking trail through the Caucasus Mountains (transcaucasiantrail.org)
- Stewarded the project home base and operations center to keep project running efficiently
- Organized food and gear shopping, and managed crews when they were not in the field

*Crew Leader*

*Jun 2017 – Sep 2017*

- Designed and constructed reroutes of deteriorating hiking trails
- Supervised crews of 8-12 international volunteers on 8-day projects in a backcountry environment
- Enforced safety-first practices at all times to maintain integrity of the project
- Managed diverse personalities from varied ages and backgrounds into cohesive working units
- Constantly monitored health, energy, and morale of group to ensure a safe and productive working environment

### American Conservation Experience, Flagstaff, AZ

*AmeriCorps Volunteer*

*Sep 2015 – May 2016*

- Built and maintained hiking trails in national parks, monuments, and wilderness areas throughout the Southwest
- Learned how to construct durable, long-lasting hiking trails using techniques that minimize environmental impact
- Consistently provided a positive impact on group morale in both pleasant and arduous working conditions
- Avoided injuries to myself and coworkers around dangerous equipment by utilizing effective communication
- Promoted to *Assistant Crew Leader* position during final month of service; managed group dynamics, delegated tasks to maximize group efficiency, and provided guidance and assistance to fellow crew members

### Major Design Project, Ann Arbor, MI

*Computer Video Game Design*

*Jan 2015 – Apr 2015*

- Built a multiplayer, cooperative video game in Unity using C#
- Utilized agile and scrum software development practices to rapidly prototype new designs
- Prioritized tasks to avoid feature creep

### Outdoor Adventures, Ann Arbor, MI

*Trip Leader and Trip Coordinator*

*Sep 2014 – May 2015*

- Led groups of eight to fifteen participants on multi-day backpacking trips
- Created customized budgets for trip food, gear, travel, and accommodations
- Maintained safety of participants at all times by adapting itineraries to avoid unexpected hazardous situations
- Encouraged positive attitudes within groups by making trips accessible to participants' various skill levels
- Worked actively to engage all participants throughout the duration of the trip

## **OTHER ACTIVITIES**

### **FLG Math Tutoring, Flagstaff, AZ**

*Founder, Mathematics Tutor*

*Jan 2018 – Sep 2019*

- Tutored local students in algebra, geometry, and statistics; utilized pay-per-click advertising (flgmathtutor.net) as well as flyer distribution to generate clients

### **Coconino County Search and Rescue, Flagstaff, AZ**

*Volunteer*

*Apr 2018 – Sep 2019*

- Participated in missions to assist outdoor enthusiasts in distress

### **Various Charter Schools, Flagstaff, AZ**

*Substitute Teacher*

*Oct 2017 – Sep 2019*

- Supported rural and underserved schools in the surrounding community

### **Colorado Trail**

*Thru-Hiker*

*Jun 2016 – Aug 2016*

- Solo thru-hiked the 500-mile Colorado Trail in 37 days

### **Every Three Weekly, Ann Arbor, MI**

*Staff Writer*

*Dec 2011 – Oct 2013*

- Wrote humorous articles for the University of Michigan's premier satire publication