
Tyler Friedman

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INTERESTS

Social Computing, Computer-Mediated Discourse, Peer Production

EDUCATION

Technion – Israel Institute of Technology, Haifa, Israel

Completed 4 credits towards a Master of Science in Electrical Engineering
Graduate Student Scholarship (100% tuition waiver and living stipend)

Oct 2016 – Mar 2017

GPA: 94.5/100

University of Michigan, Ann Arbor, MI

Bachelor of Science with Distinction, Computer Science and Mathematical Sciences

Sep 2010 – Apr 2015

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 7th 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

Platforms: MacOS, UNIX

Web Frameworks: Django

Languages: Python, C/C++, C#, MATLAB, Erlang, SQL, HTML, CSS, JavaScript, LaTeX

Applications: Git, GDB, Gprof, PythonAnywhere, AWS, Unity, MySQL

WORK EXPERIENCE

Ideological Foundation, Inc., Flagstaff, AZ

Founder, Lead Developer

Dec 2017 – Present

- Founded nonprofit organization with mission of creating a trusted, neutral social computing platform for understanding complex, controversial topics using community collaboration
- Adapted a powerful open source tool of instantaneous, open collaboration towards a novel framework for accumulating and processing knowledge of a dedicated community
- Fostered idea from infancy to working prototype (sunesiary.org) without prior web development experience using the Django web framework
- Designed solutions for the front-end, back-end, deployment, and hosting using limited financial resources

Coconino Community College, Flagstaff, AZ

Adjunct Lecturer

Jan 2018 – Present

- Taught algebra to classes composed primarily of students who 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
- 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 project features effectively 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 – Present

- 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 – Present

- Participated in missions to assist outdoor enthusiasts in distress

Various Charter Schools, Flagstaff, AZ

Substitute Teacher

Oct 2017 – Present

- 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