A L E X A N D E R   F I S C H E R

Oak Hall, UMass 143 Commonwealth Avenue, Room 319 Amherst, MA 01003-9253 (school) |
afischer@umass.edu | http://alexfischer.me | http://github.com/AlexDFischer

Education

University of Massachusetts, Amherst, MA   2016–2020
- Double majoring in computer science and mathematics. Member of the Commonwealth Honors College. GPA: 4.0.
- **Relevant Computer Science Coursework–**Computer Systems Principles (ongoing), Reasoning Under Uncertainty (ongoing), Honors Programming with Data Structures, Introduction to Computer Science.
- **Relevant Mathematics Coursework–**Introduction to Mathematical Cryptography (ongoing), Discrete Structures (ongoing), Statistics, Multivariable Calculus, Linear Algebra, Differential Equations, Modern Analysis, Complex Variables.

Skills

- **Programming Languages**–Java (including Android), C, HTML/CSS/Javascript.
- **Technologies**–Linux/Unix, LaTeX, Git, CUDA, Eclipse, Android Studio.

Experience

Research Experience for Undergraduates at University of Miami   Summer 2017 (ongoing)
- Writing software to segment axons in massive 3D scans of mice optic nerves to assist researchers studying neuron regeneration.
- Researching and implementing various computer vision algorithms.

Personal/Class Projects
- **Chamberwell**–Android game published on Google Play where one has to tilt the screen to move balls into the correct chambers. Uses Java, Android.
- **Quadratic Sieve**–implemented quadratic sieve factoring algorithm as part of cryptography group project. Uses C.
- **Mandelbrot set renderer**–renders images of the Mandelbrot set with smooth coloring and multithreading. Uses Java.
- **SPIRE autoenroller**–continuously checks if a class is open then automatically enrolls one in it if so. Uses Java, Selenium.
- See personal website (http://alexfischer.me) for more detailed information on projects.

Hackathons
- **HackHolyoke 2016**–won best hardware hack for prototype of a bike lock that could be unlocked with a phone using Bluetooth low energy. Uses Arduino, C.
- **HackUMass 2016**–created a game where a physical maze is controlled by rotating one's hand above a VR hand tracker to move a ball through the maze. Project was selected as one of Devpost's projects of the week and included in their newsletter. Uses Leap Motion, Java, Raspberry Pi, servo motors, Python.
- **HampHack 2017**–used Indico machine learning API to build an Android camera app that takes a group photo only when the right number of people are in the frame and when they are all smiling. Uses Java, Android.

Undergraduate Teaching Assistant   Spring 2017
- Undergraduate TA for computer science class 'Programming with Data Structures'.

Town of Franklin IT Department, Franklin, MA   2014–2016
- Volunteered to set up computer systems in new high school while it was under construction (summer 2014).
- Continued to volunteer with Franklin High School's IT department thereafter.

Honors and Awards

- National Merit Scholar–received corporate scholarship from MMC corporation, 2016.
- Finished second in University of Massachusetts ACM's annual programming contest, 2016.
- Scored 18 points on 2016 Putnam Exam–national mathematics competition for undergraduate students, ranking 881st out of 4164 participants.
- Finished first in University of Massachusetts ACM's annual Cisco programming contest, 2017.
- Finished second in 2017 Jacob-Cohen-Killam Mathematics Competition–competition for freshman and sophomores at University of Massachusetts, Amherst.