

Aviel Resnick

avielresnick.com • 267-690-0567 • Aviel.Resnick@gmail.com

Research:

- “Diagnosing Breast Cancer through Machine Learning” 2017 - 2018
 - This project aimed to develop a new method for the diagnosis of malignant breast tumors, by applying machine learning algorithms to data sets from fine needle aspirates. The final product was a complete diagnostic system, utilizing linear discriminant analysis, which produced a 92.11% successful diagnostic rate, over 5% greater than mammograms, leading to the acceptance of the initial hypothesis.
- “Optimization of Commercial Radar through Multithreading” 2017
 - An application of multithreading to radar systems, focusing on the optimization of the “analytical” portion of the cycle. The final product was a proof-of-concept, that software optimization techniques could be applied to improve the efficiency of hybrid systems.
- “Conceptualizing and Implementing ARP based Network Security” 2016
 - This was actually a personally goal of mine; to create software for network security which was not only functionally, but also user-friendly. My approach involved using the address resolution protocol to get the MAC addresses of connected devices, and cross referencing them with a list of user-defined “allowed” devices. In addition, I created a front end with Visual Studio, with features such as quick-add, and a full network shutdown.

Experience:

- Founder and President of the LMHS Computer Science Club 2016 - Present
 - As a computer-science oriented high schooler, I was disappointed to learn that there was no club for coding, or any other similar activity at LM. As such, I was motivated to take on a leadership position and found my own club. Over time, the club grew to over 15 members, and we focused on interesting computer science problems, and hackathon-style development.
- Volunteer Leader of the Pine Road Elementary Robotics Club 2017
 - As a high schooler, I chose to volunteer at the local elementary school, initially starting out by helping small groups of 8-10 year olds with robotics projects, primarily building and programming LEGO MindStorm robots.
- Volunteer Teacher of the Pine Road Elementary Coding Club 2018
 - As a recurring volunteer and leader at the elementary school, I offered to teach a group of talented 5th graders more advanced material, which was soon accepted and implemented into the program. Under my instruction, a group of 5 gifted students learned basic Python syntax, and applied it to various programming activities and exercises.
- Winner of Code Day Philly in Application Development 2017

- o This was a great hackathon that I participated in, where I was chosen as a group leader, and oversaw the development of a store / user communication system, which allowed shoppers to be alerted of new products, or potential deals at nearby stores.
- LM Technical Services
 - o For multiple years, I worked alongside other LM students to handle the technical services behind school events, drama club shows, and other activities.
- SPDL Public Forum Debate Finalist & Judge 2016 - Present
 - o Debate was a very influential activity that I pursued throughout high school, as it taught me a very different set of applicable skills than traditional writing / presentation classes. I competed in the SPDL League, specifically public forum debate, regularly placing in league finals.
- Frequent Hackathon Participant
 - o HackGFS
 - o CodeDay Philly
 - o PennApps 2017
 - o PennApps Retro 2018