Aviel Resnick

http://avielresnick.com/

Email : aviel.resnick@gmail.com
Mobile : +1-267-690-0567

Education

- **Lower Moreland High School** — Huntingdon Valley, PA
  Rigorous STEM Oriented AP Courseload — *Sept. 2016 – June 2020*
- **Princeton University; Center for Computational Intractability** — Princeton, NJ
  Program in Algorithmic & Combinatorial Thinking under Prof. Rajiv Gandhi — *Summer 2018*

Work Experience

- **Children's Hospital of Pennsylvania** — Philadelphia, PA
  Cardiology Research NTP — *Summer 2019 – Present*
  - **Computational Biology Researcher & Software Developer**: Designed and implemented software to automate the morphometry of histologically stained, stent-implanted arteries. Researched the application of unsupervised learning to the segmentation of medical images. Primarily utilized Python, PyTorch, and OpenCV.

Independent Experience

- **Projects**
  Complete portfolio avaliable on GitHub
  - ***Reconstruction of Phylogenetic Trees via Levenshtein Distances of RNA***: Study conducted to the evaluate the effectiveness of using the edit distance (Levenshtein Distance) between RNA sequences of species in reconstructing their phylogenetic tree.
    - **Notable Awards**: PJAS Director's award for "Most Outstanding Senior High Project in the area of Computer Science"; Schrödinger Award for Excellence in Student Science Research; Biophysical Society Award; US Dept. of Agriculture Future Scientist Award; Regional, State, and Interstate First & Second Places across the PJAS, MontCo, and DelVal Science Fairs
  - ***Diagnosing Malignant Breast Tumors via Machine Learning***: Study conducted to test the application of machine learning algorithms in the diagnosis of malignant breast tumors, based on numerical data extracted from fine needle aspiration.
    - **Technologies**: Python, SKLearn, Pandas, Scipy **Notable Awards**: Regional & State First Places at PJAS; Villanova Award for Applied Statistical Analysis; First Place in C500 (Computer Science) at MontCo Science Fair

- **Extracurricular** — Lower Moreland HS & Others
  - **Founder and President of the LMHS Computer Science [Coding] Club**: Organized and managed a club dedicated to coding, solving Computer Science problems, and hackathon-style development.
  - **Recurring Volunteer Leader & Teacher of the Pine Road Elementary Coding & Robotics Clubs**: Assisted with the leadership of a large group of elementary school students working on introductory robotics, in addition to teaching introductory Python & CS concepts to a select group.
  - **SPDL Public Forum Debate Finalist, Judge, & Team Captain**: Competed and Judged in the Southern Pennsylvania Debate League, specifically in Public Forum, which covers a multitude of both foreign and domestic socio-economic topics. Served as captain of the Debate Team during my final year.
  - **LMHS Chess Team**: Competed in the Lower Bucks County Scholastic Chess League on the LM Team.
  - **Mathematics Team Captain**: Led a team from LM in an Inter-Scholastic online mathematics league, in addition to being a leader of the LM Math Club, which acts as a meeting place for students passionate about mathematics.
  - **Frequent Hackathon Participant & Winner**: Frequent team leadership positions in regional & national hackathons, e.g HackGFS, CodeDay Philly, PennApps, PennApps Retro.

Skills

- **Java**: Extensive experience with Java for both application development and scientific computation.
- **Python**: Developed numerous projects, research studies, simulations, and scripts in Python 3.
- **Web Development**: Introductory knowledge of HTML5, CSS3, JS, and multiple web-oriented frameworks.
- **Deep Learning**: Introductory knowledge & application of machine learning technologies, e.g Supervised & Unsupervised Learning, Deep Learning, etc.
- **Languages**: Fluent in English & Russian; Proficient in Hebrew & Spanish.