Aviel Resnick

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Education

- **University of Pennsylvania, School of Engineering and Applied Science** — Philadelphia, PA
  Bachelor of Science in Engineering, Computer Science — *Sept. 2020 – May 2024*
- **Lower Moreland High School** — Huntingdon Valley, PA
  Rigorous STEM Oriented AP Courseload — *Sept. 2016 – June 2020*

Work Experience

- **Kod*Lab at GRASP Lab** — Philadelphia, PA
  Adversarial Ground Project — *July 2021 – Present*
  - **Artificial Intelligence Researcher**: Worked on the Adversarial Ground project, focusing on designing a measure for robot locomotion controller robustness using generative adversarial networks (GANs). Primarily utilized Python, Tensorflow, and SciKit-Learn.
- **Children's Hospital of Philadelphia** — Philadelphia, PA
  Cardiology Research — *Summer 2019 – Sept. 2020*
  - **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 available 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.
    - **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**
  - **UPenn Aerospace Club**: Worked on the software sub-team of the High-Altitude Balloon Team. Participated in numerous aerospace development workshops.
  - **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.
  - **Frequent Hackathon Participant & Winner**: Frequent team leadership positions in regional & national hackathons, e.g HackGFS, CodeDay Philly, PennApps, PennApps Retro, PennApps Cloud.

Skills

- **Python**: Developed numerous projects, research studies, simulations, and scripts in Python 3.
- **Java**: Extensive experience with Java for both application development and scientific computation.
- **Web Development**: Introductory knowledge of HTML5, CSS3, JS, and multiple web-oriented frameworks.
- **Artificial Intelligence**: Studied and applied domains of artificial intelligence including reinforcement learning, supervised and unsupervised learning, and neural networks.
- **Academics**: CIS 521 - Graduate Artificial Intelligence, CIS 160 - Mathematical Foundations of Computer Science, CIS 121 - Data Structures and Algorithms, CIS 240 - Introduction to Computer Systems, MATH 240 - Linear Algebra
- **Languages**: Fluent in English & Russian; Proficient in Hebrew & Spanish.