Aviel Resnick

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Philadelphia, PA. USA

Education

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

Work Experience

- **NASA Langley Research Center | Software Research Intern** — Hampton, VA
  Software Testing Research — *May 2022 – Present*
  - Worked on an inter-agency team to combine a NIST combinatorial coverage tool with NASA software testing methods for improved efficiency.
  - Researched the interplay between combinatorial coverage and property-based software testing for autonomous systems.
- **Kod*Lab at GRASP Lab | Artificial Intelligence Engineer** — Philadelphia, PA
  Adversarial Ground Project — *July 2021 – May 2022*
  - Designed a measure for robot locomotion robustness using generative adversarial networks.
  - Experimented with different network architectures and loss functions to optimize performance.
  - Managed a Linux server for remote training and testing of the GAN.
  - Primarily utilized Python, Tensorflow, SciKit-Learn, Numpy, and Git.
- **Children's Hospital of Philadelphia | Software Developer** — Philadelphia, PA
  Cardiology Research — *Summer 2019 – Sept. 2020*
  - Designed and implemented medical image segmentation software.
  - Automated the morphometry of histologically stained, stent-implanted arterial images.
  - Researched the application of unsupervised learning to the segmentation of medical images.
  - Primarily utilized Python, PyTorch, OpenCV, and Tkinter.

Independent Experience

- **Penn Aerospace Club | High Altitude Balloon Team | Software Director** — *Sept. 2020 - Present*
  - Led the development of a real-time communication interface with a high-altitude payload.
  - Facilitated full connectivity with an onboard sensor suite at altitudes of over 70,000 feet.
  - Oversaw a sub-team focusing on processing and statistical analysis of flight data.
  - Managed launch procedures and payload recovery in accordance with FAA regulation.

Skills

- **Python**: Professional experience using Python 3 for software and research development.
- **C**: Academic experience using C and LC3/4 Assembly for low-level computer systems projects.
- **Java**: Extensive experience with Java for both application development and scientific computation.
- **Web Development**: Experience with MERN (MongoDB, Express, React, and Node) stack for Agile development.
- **Artificial Intelligence**: Studied and applied domains of artificial intelligence including reinforcement learning, supervised and unsupervised learning, and neural networks in a research setting.
- **Selected Coursework**: CIS 521 - Graduate Artificial Intelligence, CIS 350 - Software Development, CIS 240 - Computer Systems, CIS 121 - Data Structures and Algorithms
- **Languages**: Fluent in English & Russian; Limited Hebrew & Spanish.