Robert Martino

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Education

- **Rensselaer Polytechnic Institute** — **Troy, NY**
  M.S. Computer Science, Cum Laude, GPA: 3.52/ 4.0 — *2017-2018*

- **Rensselaer Polytechnic Institute** — **Troy, NY**
  B.S. Computer Science, Cum Laude, GPA: 3.60/ 4.0 — *2014-2017*

Experience

- **Assured Information Security Inc.** — **Rome, NY**
  Research Scientist (DOD T.S. Clearance) — *January 2019 - Present*

  Hypervisor Threat Analysis:
  - Conducted Internal R&D projects on using machine learning to detect hypervisor intrusion from the host and created an evolutionary fuzzing methodology for binary analysis
  - Synthesized the projects for DARPA's SHEATH program, used evolutionary fuzzing in a sandboxed hypervisor to detect trojans on network interface cards
  - Publication came out of the work: <?>

  Binary Comparison and Obfuscation:
  - Conducted Internal R&D project for creating comparison metrics for obfucscated binaries using graph neural networks on control flow graphs
  - Recruited to the software engineering team to integrate binary comparison into existing production technology

  Adversarial Reinforcement Learning:
  - Conducted Internal R&D project on adversarial reinforcement learning for the board game Stratego
  - Created triggers for exploiting Deepmind's Alpha* on Starcraft2 minigames

- **GE Global Research Center** — **Niskayuna, NY**
  Fellow Intern — *May 2018 - August 2018*
  - Successfully developed proof-of-concept machine learning prediction models for ultrasound images of subcutaneous lipomas
  - Created dataset and pipeline for the models, and achieved 85% classification accuracy on a noisy dataset
  - Reverse engineered a fault test generator for data extraction and integrated it into an industrial ethereum blockchain

- **Systems & Technology Research Inc.** — **Boston, MA**
  Machine Learning Intern — *May 2017- August 2017*
  - Analyzed and predicted location and timing of noteable events in the Middle East for IARPA's Mercury Program
  - Applied unsupervised learning to cluster data-sparse areas into prediction targets
  - Employed structured prediction to exploit geospatial relationships of prediction targets for higher accuracy

- **Rensselaer Polytechnic Institute** — **Troy, NY**
  Research and Teaching Assistant — *January 2017 - December 2017*
  - Investigated computational social choice problems with Dr. Lirong Xia
  - Selected as undergraduate TA for CS 6100 *Machine Learning from Data* with Dr. Malik Magdon-Ismail

Selected Projects

- **Strat-O-Matic Football Server**
  January 2021 - Present
  - Currently implementing the classic multiplayer sports board game in Python
  - Stood up as a web app with Django in Docker, using Redis to serve multiplayer functionality
  - Creating complex and modifiable statistical models for all NFL players from 1956-2020 to facilitate hyper-realistic game play between teams from different eras.

- **DilbertGAN**
  October 2019 - August 2020
  - Scraped and cleaned custom dataset of all *Dilbert* comics since 1989 along with corresponding text and labels
  - Created a test bed with the data for testing SOTA GAN models and also experimenting with novel GAN approaches to image and natural language coherence across panels

Skills

- **Primary Language:**
  Python - Tensorflow/Keras, Pytorch, pandas, numpy, opencv, Sklearn

- **Strong proficiency:**
  Bash, Git, Linux, Docker, SQL, C, Wireshark, Agile Software Development