

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 - Top Secret (TS) Clearance January 2019 - Present
Hardware Trojan Detection:
 - Conducted Internal R&D projects using machine learning to detect hypervisor intrusion
 - Created a novel neural network driven evolutionary fuzzing methodology for binary analysis
 - Applied those technologies to DARPA's SHEATH program, used evolutionary fuzzing in a sandboxed hypervisor to detect trojans on network interface cards*Binary Comparison and Obfuscation:*
 - Created comparison metrics for obfuscated 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:*
 - Proposed, wrote, and led Internal R&D project on adversarial reinforcement learning for the board game Stratego
 - Created triggers for exploiting Deepmind's AlphaStar on Starcraft2 minigames for contract with the Office of Naval Research
- **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 notable 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

Selected Projects

- **Strat-O-Matic Football Server**
January 2021 - Present
 - Currently implementing the classic multiplayer sports board game Strat-O-Matic in Python
 - Stood up the game 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 the latest 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, Sci-kit Learn, Jupyter Lab & Notebooks
- **Strong proficiency:**
Bash Scripting, Git, Linux, Docker, SQL, C, Wireshark, Agile Software Development, Technical Writing

Publications

- Inman, J., J. Wright, **R. Martino**, M. Gale, C. Rogers, R. Dora, D. Mitchell, D.R. Dewhurst, N. Gupta. (2021) FALCHION: Fuzzing Automatically to Locate Compromised Hardware with Isolation to Omit Noise. GOMACTech Conference.