Stephen Martino

(518) 588-9577 • smartino787@gmail.com • www.stephenjmartino.com
stephenjmartino • stephen-martino

Education

- **Siena College** — **Loudonville, NY**
  B.S. Applied Physics GPA: 3.66/ 4.0 — *Expected May 2024*
- **Clarkson University** — **Schenectady, NY**
  M.S. Mechanical Engineering via 4-1 Program — *Expected May 2025*

Experience

- **Assured Information Security Inc.** — **Rome, NY**
  Research Scientist - Top Secret (TS) Clearance — *January 2019 - Present*
  Machine Learning for Defensive Cyber Operations
  - Conducted Internal R&D project that successfully applied machine learning to detect hypervisor intrusion
  - Designed a novel neural network driven evolutionary fuzzing methodology for binary analysis
  - Combined above technologies in DARPA's SHEATH program, using the evolutionary fuzzing techniques in a sandboxed hypervisor to successfully detect trojans on network interface cards. Publication resulted from the work.

  Binary Comparison and Obfuscation:
  - Generated intelligent comparison metrics for obfucscated binaries using graph neural networks on control flow graphs
  - Recruited to the software engineering team to integrate those binary comparison techniques into existing production technology

  Adversarial Reinforcement Learning:
  - Proposed, wrote, and led Internal R&D project utilizing adversarial reininforcement learning for the board game Stratego
  - Created triggers for exploiting Deepmind's AlphaStar on Starcraft2 minigames for a contract with the Office of Naval Research
- **GE Global Research Center** — **Niskayuna, NY**
  Fellow Intern — *May 2018 - August 2018*
  - Developed a successful proof-of-concept machine learning prediction models for ultrasound images of subcutaneous lipomas
  - Created dataset and pipeline for the models, 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

Projects

- **Woodworking**
  2014 - 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
- **3D Printing**
  2017-Present
  - 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
- **Personal Website**
  2021-Present
  - 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

- **Technical Skills:**
  AutoCAD, Java, Python, Git, HTML, CSS, LaTeX, Linux, Google Colab, Microsoft Office Suite, Docker, Portainer
- **Strong proficiencies:**
  Bash Scripting, Git, Linux, Docker, SQL, C, Wireshark, Agile Software Development, Technical Writing