Andrew Morato

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Fairfax, VA

PROFESSIONAL SUMMARY

Enthusiastic software developer with a wide range of interests and over 8 years of coding experience. Expertise with Java, C, Python, and UNIX.

EDUCATION

GEORGE MASON UNIVERSITY
Master of Science (M.S.) Computer Science (May 2020)

GEORGE MASON UNIVERSITY
Bachelor of Science (B.S.) Computer Science (May 2018)

TECHNICAL SKILLS

LANGUAGES: Java, Python, C, C++, MIPS/x86, Haskell, Lisp, Prolog, HTML, CSS, SPARQL, PowerShell

SOFTWARE & TOOLS: Wireshark, Git, Nmap / Netcat, Docker, UNIX, Linux, Arduino, Maven, RDF, Vim, IntelliJ

PACKAGES & LIBRARIES: OpenCV, NumPy, OpenSSL, Matplotlib, Pthreads (C), Lex / Bison, Guava, JUnit, Scikit-learn

GRADUATE COURSES: Autonomous Robotics, Computer Vision, Network Security, Operating Systems, Distributed Systems, Advanced Algorithms, Compilers, Data Mining, Classical Exploitation

EXTRACURRICULAR

Fluent Spanish speaker
Avid soccer player
Interested in robots

EXPERIENCE

ASSOCIATE SOFTWARE ENGINEER

Parsons Corporation, Centreville, VA / Aug 2019 - Oct 2020

- Worked with a large team to architect and implement highly efficient, robust, and scalable solutions using the Agile development process, extensive networking protocol knowledge, and state-of-the-art software tools and practices.
- Designed systems and wrote efficient Java code to quickly analyze, label, and process large collections of data.
- Tested and maintained software across several levels to ensure strong functionality, reliability, and optimization.

GRADUATE TEACHING ASSISTANT

George Mason University, Fairfax, VA / Jan 2019 - May 2019

- Lead primary instruction and administered an information security graduate course on classical exploitation, intrusion detection, network security, reverse engineering, and malware analysis.
- Assisted in the instruction and grading of an introductory undergraduate course on low-level programming.

RECENT PROJECTS GitHub Link *for all projects*

8-Bit Computer *with Arduino using Lex, Bison*

- Designed and built a Turing-complete 8-bit computer from scratch, including developing an assembler and assembly language (full compiler in progress).
- Includes 4 registers, 64-bit memory, an ALU, 2Kb stack, 16-bit clock, a decimal display, & 2Kb instruction memory.

TRAFFIC SIGN DETECTION *Python using OpenCV, NumPy*

- Wrote a program to detect traffic signs in videos from Berkley's DeepDrive dataset, relying exclusively on computer vision techniques rather than ML.
- Applied Sobel filters to create edge maps and analyzed them using gradients, edge histograms, thresholding, and contour approximation with the Douglas-Pecker algo.

MOVING OBJECT TRACKER *Python using OpenCV, NumPy*

- Wrote a program to track a moving object in a video via feature correspondence and adaptive thresholding using SIFT and the Harris Corner Detector.

MAX-CUT ANALYSIS *Python using OpenCV, NumPy, Matplotlib*

- Wrote a research paper to compare two max-cut approximation algorithms (local search & greedy techniques) under varying conditions, comparing their speed, efficiency, and robustness using original implementations.