

# Matthew Puentes

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## SUMMARY:

I am a technically skilled computer science student looking for an internship with a government agency or FFDRRC. Specializing in Cybersecurity and Networking, I have several years of experience writing software for a variety of different applications, from networked automation to website development.

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## EDUCATION:

- Worcester Polytechnic Institute**, Worcester, MA GPA 3.86, *May 2021*
- Bachelor of Science in Computer Science with a concentration in cybersecurity.
  - Master's Degree in Computer Science with a concentration in cybersecurity.
- George Mason High School**, Falls Church, VA GPA 3.69, *June 2016*
- Advanced Diploma.
- Thomas Nelson Community College**, Hampton, VA GPA 4.00, *Nov. 2015*
- Dual Enrolled through NASA's VASTS program.

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## PROFESSIONAL EXPERIENCE:

- MIT Lincoln Laboratory**, Bedford, MA
- Cyber Physical Systems Intern** *Aug. 2019 – Oct. 2019*
- Developed full-stack JavaScript and Python Cybersecurity visualization applications for internal use.
  - Wrote a paper entitled "Cyber Physical Investigation and Monitoring System" to fulfil bachelor's degree.
  - Worked 40 hours a week
- MITRE**, Bedford, MA
- Network Technology and Security Intern** *June 2019 – Aug. 2019*
- Developed software for a variety of lab equipment to fit a robust, extensible automation framework.
  - Maintained and improved existing automation software.
  - Worked 40 hours a week.
- Electronic Capture the Flag (eCTF) participant** *June 2019 – Aug. 2019*
- Participated in parallel with Network Technology and Security Internship
  - Designed, tested, and developed a secure design for an MP3 player
  - Designed and wrote firmware for the secure playing of songs, including payment and region-locking DRM functionality.
  - Designed and tested a watermarking method for the unique fingerprinting of songs.
  - Designed and implemented successful attacks against other competing designs.
  - Came in 1<sup>st</sup> place in the company-wide competition
  - Worked 8 hours a week.
- British Museum.**, London, UK
- Interactive Qualifying Project participant** *Mar. 2019 – April 2019*
- Designed a website publishing process for future employees to develop websites through WordPress.
  - Designed and Developed a website for the "Bristol: The Bigger Picture" online exhibition.
- Digital Design & Imaging Service Inc.**, Falls Church, VA
- Engineering Intern** *June 2016 – Aug. 2016*
- Maintained and developed aerial photography equipment.
  - Used Photoshop and other professional image and location mapping software to assist in large-scale landscape architecture analysis projects such as crowd counts.
  - Worked for diverse clientele, from construction firms to large cities.
  - Worked 32 hours a week.
- Junior Engineer** *June 2017 – Aug. 2017*
- Designed, implemented, and maintained software to process GPS and photography data.

- Maintained and upgraded electronic and mechanical systems for aerostat photography.
- Fulfilled duties of above position when required.
- Worked 32 hours a week.

**ID Tech, Falls Church, VA**

**Counselor**

*June 2018 – Aug. 2018*

- Supervised and taught a classroom of 9-10 children in STEM – related fields.
- Worked 40 hours a week.

**George Mason Technology Help Desk, Falls Church, VA**

**Computer Technician**

*Sept. 2014 – June 2016*

- Diagnosed and repaired hardware and software issues with school-owned equipment.
- Worked with Apple and Microsoft computers and software, gaining familiarity with both systems.
- Coached students and teachers in the usage of school hardware and software.
- Worked 8 hours a week.

**PROJECTS:**

**Assistant Lead Software Engineer for Software Engineering Course** Worcester, MA *Mar. 2018 – May 2018*

This was a course I took at WPI, which had ten-person student teams working in a class competition to apply Agile development methodologies and software design patterns in Java to create an indoor pathfinding application, map builder, and integrated service request modules for Brigham & Women's main hospital campus. The software systems that student teams created were to inform Brigham & Women's Hospital about potential features, user interfaces, or design approaches that they might consider implementing.

- As an assistant lead software engineer, I helped gather software requirements by survey, interview, and brainstorming. I also helped create user stories, scenarios and storyboards.
- I designed and wrote the path visualization and map node editing subsystems of the application through the creation of UML use case, class, sequence, and activity diagrams. I was the technical leader of the entire map editing and code.
- As an assistant project manager, I was jointly responsible for managing project tasks, coordinating the team, and keeping all of the members motivated.
- Our team successfully delivered the requested application at the end of the seven-week term. The team was recognized for:
  - Winning the team competition for best application in the first development iteration.
  - Winning the team competition for best feature in the second and third development iteration for custom node mapping with intuitive selection, and a neural network that predicted 2D to 3D hospital map conversion.

**Head programmer for FIRST robotics team, Falls Church, VA**

*Sept. 2013 – June 2016*

- FIRST robotics is a program in which students in high school design, code, and build a working robot according to a specified challenge in a 2-month timeframe.
- The program has regional, state, and national levels with leading robotics experts acting as judges.
- While I was programming lead, our team successfully placed first at the regional and state level, as well as being a finalist on the national level.
- I spent 150+ hours a year programming, designing, testing, and piloting the robot.

**Windows expert for Cyber Patriots team, Falls Church, VA**

*Sept. 2014 – June 2016*

- Cyber Patriots is a government-run program where students are given an operating system with security variabilities and have to try and solve as many as possible under a time limit.
- I was in charge of the Windows OS, which ranged from Windows 10 to Windows Server 2009.
- I was challenged to quickly and efficiently find and eliminate security threats ranging from firewall settings to malicious software, which I was able to accomplish via a thorough checklist and process created in the off-season.
- Our team placed first in the state of Virginia.

## RELEVANT COURSEWORK:

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- Software Engineering (as described above)
  - Under Prof. Wilson Wong
  - Grade Received: A
- Database Systems
  - Under Prof. Wilson Wong
  - Grade Received: A
- Algorithms
  - Under Prof. Suzanne Mello-Stark
  - Grade Received: A
- Operating Systems
  - Under Prof. Hugh Lauer
  - Grade Received: A
- Machine organization and assembly language
  - Under Prof. Michael Ciaraldi
  - Grade Received: A
- Computer Networks
  - Under Prof. Yanhua Li
  - Grade Received: A
- Network Security
  - Under Prof. Craig Shue
  - Grade Received: A

## ACCOLADES & HONORS:

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- **Worcester Polytechnic Institute Dean's List**, 2016, 2017, 2018, 2019
- **Worcester Polytechnic Institute Honor Roll**, 2016, 2017, 2018, 2019
- **Worcester Polytechnic Institute Charles O. Thompson Scholar**, 2017
- **Cyber Corps Scholarship for Service Recipient**, 2018

## SKILLS:

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- **Programming Languages:** Python, Java, JavaDB, JavaFX, MySQL, C++, C, SQL, Lua, LISP
- **Software:** GitHub, Microsoft Office, Bash/Unix Shell, IntelliJ, Eclipse, Gradle, TravisCI, Vim
- **Interpersonal:** Proven leadership and teamwork skills, experience with agile development

## ACTIVITIES:

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- **FIRST Robotics**, George Mason High School, 2011-2017
- **Cybersecurity CTF challenges**, Various, 2015 – Present
- **Beta Theta Pi**, WPI, December 2016 – Present
  - **Vice President**, December 2017 – March 2017
  - **Financial Chair**, April 2018 – October 2018
  - **Vice President**, December 2018 – Present