

# DAVID MITRE

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Personal Portfolio: <https://DavidCMitre.github.io>

## EDUCATION

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| <b>Northeastern University</b> Boston, MA   | September 2020 - Expected December 2023 |
| Candidate for Bachelors of Science in Computer Science                                      | Dean's List, GPA: 3.93/4.0              |
| Relevant Courses: Object Oriented Design, Algorithms & Data, Networks & Distributed Systems |   |
| <b>Harvard University Summer School</b> Cambridge, MA                                       | June 2019 - August 2019                 |
| Intensive Introduction to Computer Science with Java  | GPA: 4.0/4.0                            |

## SKILLS

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**Languages:** Java, Python 2/3, C++, SQL, Bash, Groovy (Gradle), Racket, Lean, MIPS Assembly  
**Software:** IntelliJ IDEA, Eclipse, Visual Studio Code, Android Studio, Atom, Git, Jira, Bitbucket, Github  
**Libraries:** Angular, JUnit testing, Swing GUI, Numpy, Pandas, Matplotlib, Gson, RxJava

## PROFESSIONAL EXPERIENCE

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| <b>Software Engineer Intern @ Viken Detection</b> | January 2023 - June 2023 |
| <i>Full Time</i>                                  | <i>Burlington, MA</i>    |

**[Project] Automated APK Releases** Bash, Groovy

- Replaced the existing manual build process with an interactive release manager tool with dynamic versioning and test support. Cut down the daily release workflows across 3 APKs from 30 minutes to less than 1 minute
- Successfully on-boarded and mentored two interns, introducing them to Viken development processes and tools

**[Project] Osprey Server** Python, Django, Rest API

- Improved Osprey system reliability by devising and building a command acknowledgement and retry system on client-side and server-side, which eliminated recurring issue of dropped commands
- Established backwards compatibility in the server and client acknowledgement scheme to maintain functionality even in the case of mismatched versioning of the system allowing immediate dispatching into production

**[Project] Osprey Material Discrimination Calibrator** Java, Volley, RxJava, XML

- Automated the X-ray calibration process for the Osprey Vehicle X-ray by implementing device-level software in C++ & writing integration code in Java. Reduced process from 90 to 15 min and enhanced image quality
- Rewrote the existing motor control communication protocol to improve motor control reliability and reduce dropped packets from 60% to 0%, and failed commands from 80% to 0%
- Self-set and met deadlines by unblocking myself through communication with electrical, mechanical, and network teams to solve issues, maintaining high productivity (landed 23k lines of code in production)

**[Project] Handheld Backscatter X-ray Imager** Java, Bash, Android

- Enhanced user experience by generating ability to annotate scan images – maintaining the annotations through an SQLite database – successfully fulfilling and delivering on clients' requests
- Co-designed storage and transmission of annotations on images to be fully separate from image storage, minding law enforcement clients who benefit in court from file immutability
- Detected and remedied connectivity issue in wifi direct connection from device to accessory application, allowing devices to connect and transmit data to a central point of control

## PERSONAL AND COURSE PROJECTS

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**[Project] Image Editing Software** Java, , Java Swing, Pair-programming, MVC

- Edit, save, & convert image files, coordinated meetings & deadlines for weekly feature additions such as mosaics

**[Project] Live Location-Based Bus Tracking** Java, Java Native Access, MySQL, API integration

- Displays real-time transit info, accesses location data with C# code, used user feedback to add offline caching