

Isabelle Delmas

Security Software Engineer

B.S. in Computer Science, San José State University, CA – expected graduation **May 2020 [GPA 3.99/4.0]**

MICS - Master's in Information and Cyber Security - University of California Berkeley, Berkeley, CA - expected **June 2022**

PROFESSIONAL EXPERIENCE

Software Engineer at Proofpoint: Threat Detection Product Engineering June 2020 - current

- System Engineering to maintain and improve performance of systems performing large scale dynamic and static analysis (several 100s servers) - During my first quarter, I wrote a ClamAv patch that improved sandboxing analysis and static scanning time by xx% during my first quarter
- Upgrading, fixing bugs and developing new features for new and existing Java services
- Integrating the untrusted scanning environment with Proofpoint's ecosystem
- Design and improve System's monitoring from technical implementation to runbook documentation
- Writing internal System Level Agreement, Objectives, and Indicators and presenting them to other teams and upper management for approval: During my first quarter, I created and documented the first internal process to develop SLAs
- Knowledge Sharing: internal presentations on
 - Upgrading Java Services from Java 9 to Java 11
 - Understanding and Choosing AWS encryption options
- Read and write code using several programming and scripting languages: Java, C/C++, bash, Python

Software Engineer Intern at Proofpoint June 2019 - current

- Learned to develop and developed on ProofPoint's internal **Spring-like platform** (Proofpoint Java Platform)
- **Worked closely with the scrum master** to define my projects and **autonomously manage** my tasks during the sprint
- **Designed, developed and documented tools** used by analysts every day, enabling them to dynamically whitelist URLs [1]
- **Developed metrics** for existing services, leading to improved service monitoring of customer usage
- Created graphical tools to monitor web services, **improving the response time and the visibility** for upper management
- Designed and wrote Java based **microservice** hosted in **AWS** with **Redis** backend

TECHNICAL SKILLS

- Languages: **Java**, C/C++, **Python**, bash, Python, Racket, PHP, JavaScript, HTML, C#, X86 and ARM Assembler
- Technologies: web-services with Spring-like platform, Mockito, Android development, SQL, Redis, JavaFX, STL, SDL, data Structures, algorithms, OOP, VR programming (SteamVR/Unity)
- Workflow: UML, Git, GitHub, unit testing, Jira, Stash, Kubernetes
- **Security topics**: Burp, HTML requests, spoofing requests, indirect object reference attacks, SQLi, XSS, cryptography, access control, security protocols, software flaws and malware, Nmap
- Upcoming skills and certifications:
 - compTIA Network+ (expected January 2021)

PROJECTS

[1] **Whitelisting Service: Designed and developed a web service** (Proofpoint)

[Java, Spring-like, Json, REST API,

Mockito]

I repaired and maintained a whitelisting java library to be used by several services. I incorporated metrics to monitor the service's health and created an internal troubleshooting guide and runbook. My service, soon to be released to production, passed all internal security reviews.

Web-based antivirus software for Microsoft PE files (Personal)

[PHP, Javascript, HTML, MySQL]

I researched the binary architecture of Microsoft PE files, design and implement a website with user and admin sessions that checks files for malicious content using anomalies in the file headers that can be finely tuned by the admin. My next step is to add viral signature detection using a database constructed using viral files provided by the admin. This site has been designed with security in mind preventing access with attacks such as session hijacking, SQL injection, and XSS.

StudyBuddy: Created a JavaFx multiple choice question app (Personal)

[Java, JavaFx]

Looking for a free MCQ app to help me prepare for biology quizzes, I realized the tool I was looking for did not exist; I decided to create it. In less than 10 weeks, I designed an entire program from scratch applying OOP concepts and learning

a new front-end framework. The resulting program prompts students for questions not yet mastered allowing them to practice and test themselves. The app was released to over 400 biology students before the end of the semester.

COLLEGE COURSEWORK

Undergraduate: Operating Systems, Software Engineering, Information Security, Intro to AI, Object Oriented Programing, Object Oriented Design, Data Structures and Algorithms, Computer Architecture, VR Programing, Databases, Formal Languages and Computability, Full Stack Web Development, Programing Paradigm, Computer Networks (spring 2020), NoSQL Databases (spring 2020)

Graduate: Cryptography for Cyber and Network Security, Beyond the Code: Cybersecurity in Context, Software Security (in progress), Network Security (in progress)

SUCCESES & HONORS

- **Facebook Cybersecurity** course: **outstanding performance** (Spring 2019)
- **WiCyS** scholarship (spring 2019): full ride scholarship to the WiCyS conference (Cybersecurity Conference)
- Scholarship for **outstanding work** from SJSU Computer Science Department (spring 2018)
- Muriel Allan scholarship from Las Positas College **Honors Program** (spring 2016)

COMMUNITY SERVICE

- *STEM NOW*: President/Vice-president of organization promoting equality between genders in tech industry and offering students professional and mentorship opportunities - SJSU 2017 to 2020