

# Dagmawi M. Mulugeta

 [www.dagmawi.io](http://www.dagmawi.io) |  [linkedin.com/in/dmulugeta](https://www.linkedin.com/in/dmulugeta) |  [github.com/dagmawim](https://github.com/dagmawim) |  [djdg432@gmail.com](mailto:djdg432@gmail.com)

## Education

### **M.Sc. in Cybersecurity**

Drexel University

September 2015 – June 2019

Philadelphia, PA

Thesis: *Security Posture Based Incident Forecasting*

Advisors: Ben Goodman, Prof. Steven Weber

Thesis Committee: Prof. Nagarajan Kandasamy, Prof. Steven Weber, Ben Goodman

### **B.Sc. in Computer Engineering**

Drexel University

September 2014 – June 2019

Philadelphia, PA

Honors: summa cum laude

## Skills and interests

- **Topics:** Cloud Computing, Cybersecurity, Software Engineering, Machine Learning
- **Software:** Cloud (Google, AWS, Heroku, Azure), Elastic Stack, Git, Docker, Jenkins, Graylog, Kafka, Kali, Metasploit, Burp, NodeJS
- **Programming Languages:** Python, JavaScript, Bash, C, Java, Scala, SQL

## Professional experience

### **Threat Research Engineer**

October 2020 – Present

Netskope

London, United Kingdom

- Identify, profile, and hunt the latest trends in cloud-enabled threats
- Design and implement advanced heuristic and ML-based detections to detect malicious activity
- Publish academic (e.g., conference and journal papers) and non-academic documents (e.g., blogs, webinars, etc.) to aid in keeping cyberspace secure

### **Software Security Engineer**

August 2019 – October 2020

4A Security & Compliance

Addis Ababa, Ethiopia | Philadelphia, PA

- Developed a commercial tool (Cyrisk™) to identify companies' external network configurations and analyze the associated security risk
- Implemented a continuous integration pipeline to aid in development efforts
- Collaborated with a solutions engineer to maintain a multi-tenant cloud environment on AWS

### **IaaS Engineering Intern**

March 2018 – September 2018

Sift Security (Acquired by Netskope)

Philadelphia, PA | Santa Clara, CA

- Contributed to 20+ microservices leading to the success of customer engagements
- Developed new features for a platform that monitors cloud infrastructure
- Solved intricate problems like scaling the ingestion pipeline and addressing reliability concerns in data processing services

## Software Developer / Interim Lead

March 2016 – March 2018

Educational Commission for Foreign Medical Graduates

Philadelphia, PA

- Researched and frequently built frameworks for business features like document scanning and uploading, user information storage, and fingerprint-based user authentication
- Temporarily placed **in charge** of a team of 3 developers and all development efforts specific to testing, building, and deploying a codebase of mobile applications

## Research groups

### Netskope Threat Labs

October 2020 – Present

Netskope

London, United Kingdom

- Identify, profile, and hunt the latest trends in cloud-enabled threats
- Design and implement advanced heuristic and ML-based detections to detect malicious activity
- Publish academic (e.g., conference and journal papers) and non-academic documents (e.g., blogs, webinars, etc.) to aid in keeping cyberspace secure

### Cloud Threat Team

May 2018 – September 2018

Sift Security (Acquired by Netskope)

Philadelphia, PA | Santa Clara, CA

- Gained material understanding in detecting malicious activity on AWS & GCP
- Designed data processing components to receiving high volume data from cloud providers using Python, Java, and Scala
- Solved complex issues in the products' detection components

### S.T.A.R. Scholar

June 2015 – September 2015

Excite Center at Drexel University

Philadelphia, PA

- Participated in faculty-mentored research under the supervision of Dr. Matthew Prockup and Prof. Youngmoo Kim
- Developed two mobile applications (Museum Finder and Shuttle Tracker) as capstone projects for Prof. Neville Vakharia

## Projects

### JARM Randomizer

March 2021 – Present

- **Description:** a Python3 tool that iterates over supported server-side TLS version and Cipher suites to defeat JARM based fingerprinting. This tool was open-sourced as part of JARM Randomizer: Evading JARM Fingerprinting for HiTB Amsterdam 2021.
- **Tools:** Python3, JARM, pipenv, OpenSSL, TLS/SSL
- **URL:** [https://github.com/netskopeoss/jarm\\_randomizer](https://github.com/netskopeoss/jarm_randomizer)

### Censys-ml

August 2019 – Present

- **Description:** Highly scalable data transformation tool that transforms censys.io data into a more suitable model for data analysis
- **Tools:** Google BigQuery, Python3, Vector, censys.io, ZMap
- **URL:** [www.github.com/censys-ml/censys-ml](https://www.github.com/censys-ml/censys-ml)

### Filming Mark

September 2015 – September 2020

- **Description:** Web application that uses the TMDB API to suggest movies based on past preferences, viewer ratings, and release dates
- **Tools:** Angular X, Node JS, Heroku, GCP, Auth0

## Publications

- [\[Thesis\]](#) Dagmawi Mulugeta, "Security Posture Based Incident Forecasting," 2019
- [\[Paper\]](#) Dagmawi Mulugeta, Ben Goodman, and Steven Weber. "Security posture-based incident forecasting." (*In Review*)

## Honors and awards

- [Muchnic Scholarship](#) 2017 - 2019
- [Dean's List Distinction](#) 2014 - 2019
- [CPTC Regional Event \(third place\)](#) 2019
- [2019 COOP Award Nominee](#) 2019
- [A.J. Drexel Scholarship](#) 2014 - 2019
- [Dragon Scholarship](#) 2014 - 2019

## Memberships and certifications

- [Offensive Security Certified Professional \(OSCP\)](#) 2021
- [AWS Machine Learning Specialist](#) 2020 - 2022
- [AWS Security Specialist](#) 2019 - 2021
- [AWS Associate Solutions Architect](#) 2019 - 2021
- [AWS Cloud Practitioner](#) 2019 - 2021
- [CyberDragons Asc. Event Coordinator](#) 2018 - 2019