

Mia Gil Epner

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github.com/miagilepner

EXPERIENCE

Expansive, Inc. (formerly Qadium, Inc.) *Software Engineer, Collections Team*

July 2017 - Present

Contribute to an internet intelligence platform by developing new Go and Java microservices, enhancing reliability and observability, and managing ETL processing of global IPv4 scan data using Storm, Kafka, and Beam.

Accomplishments include:

- Reimplemented a business-critical data collection system in Go, decreasing costs by a factor of 150 while increasing parallelism by a factor of 10.
- Designed and developed a Beam pipeline reading from Kafka to re-scan critical exposures with low latency.

University of California, Berkeley *Undergraduate Student Instructor of Computer Security*

January 2017 - May 2017

Led discussion sections, held office hours, created and graded homeworks and exams for the Berkeley course Introduction to Computer Security.

University of California, Berkeley *Research Assistant*

January 2016 - September 2016

Assisted UC Berkeley PhD candidate David Fifield with research relating to the development of Snowflake, a pluggable transport for the Tor Project.

National Security Agency *Software Engineering Intern*

May 2014 - August 2016

Special Tactics and Techniques, Summer 2016: Developed a user-space, UNIX data collection tool in C to support strategic intelligence requirements.

Backbone Technologies Branch, Summer 2015: Developed a program in C and Python in an embedded Linux environment to perform an integrity check of modules loaded on external machines.

Geographic Technologies Center, Summer 2014: Coded a geocoder using a custom auto-complete text form to query databases in Javascript.

Mapped location records into an Elasticsearch database in Java, indexed the data, and provided server maintenance.

EDUCATION

University of California, Berkeley *B.A. in Computer Science* *B.A. in Near Eastern Languages and Literatures*

August 2013 - May 2017

SKILLS

Software development, embedded systems development, reverse engineering, test and documentation creation.

Top Secret/SCI Security Clearance

Conversational in Modern Standard Arabic.

LANGUAGES & TECHNOLOGIES

Go, Java, C, Python

Docker, Kubernetes, Beam (Dataflow), RabbitMQ, Kafka

PROJECTS

Malicious Tor Hidden Service Directories

<https://github.com/miagilepner/Tor-HSDir-Research>

Parsed and analyzed 1 year of Tor consensus documents using Python to discover malicious hidden service directories.

The Fingerprintability of WebRTC

<https://github.com/miagilepner/DTLS-fingerprint>

Created a DTLS fingerprint generator using Bro, a network analysis language, to survey WebRTC connections.

Pintos

Project available upon request.

Implemented kernel threads, user programs, and a Unix file system in C for a lightweight OS.