

Elaine Cubit



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elliottcubit

RELEVANT SKILLS

- | | | |
|-----------------------------------|----------------------------|---------------------------|
| ○ Go Programming | ○ Agile development | ○ Software fingerprinting |
| ○ GCP | ○ Apache Beam | ○ Terraform |
| ○ Google Cloud Pub/Sub | ○ Gitlab CI | ○ Helm |
| ○ Google Cloud Bigtable | ○ Docker | ○ GitHub actions |
| ○ Postgres | ○ gRPC microservices | ○ Kubernetes |
| ○ Jira | ○ Code review | ○ Google Spanner |
| ○ Unix | ○ Bash | ○ Regular expressions |
| ○ L ^A T _E X | ○ X509 certificates | ○ Scala |
| ○ Git (Github, Gitlab) | ○ Certificate transparency | ○ Protobuf |

EXPERIENCE

Censys

Software Engineering Intern

Software Engineer

Senior Software Engineer

Ann Arbor, MI

May 2020 - May 2021

May 2021 - May 2023

May 2023 - Present

- Developed data pipelines and services for storing and searching bulk port scan data (2TB/day)
- Spearheaded implementation of greenfield data pipeline for collecting and storing more than 20 billion x509 certificates
 - gRPC microservices written in Go, running in Google Kubernetes Engine
 - Mirrors and validates new entries to certificate transparency logs in real time
 - Indexes certificates for search using Elasticsearch
 - Certificate validity is verified and updated in the index daily
- Created a central architecture diagram for services developed by the team (and later, the company)
- Automated analysis of daily dataset downloads, alerting on statistical anomalies such as autonomous systems in particular geographic regions entirely blocking our scanning
- Developed a DNS resolution pipeline capable of resolving billions of names daily and efficiently fetching their resolution history
- Designed and maintained template-based framework for efficient software, hardware, and OS labeling
 - Capable of processing 200,000 records per second with less than 50ms p95 latency
 - Executes thousands of regular-expression based fingerprints for each record
 - Uses a custom DSL allowing simple access to deeply-nested record fields and templating language
 - Created and maintained documentation and support materials for team of researchers using the tool
 - Fielded feature requests from the team, implementing those that were feasible without compromising on the primary product timeline
- Integrated several popular open-source fingerprinting frameworks such as Rapid7 Recog, Nuclei-Templates, Wappalyzer, and Vulncheck into the product
- Worked with research and data analysis teams to build custom tooling to improve their operating efficiency
- Implemented L7 scanner and parser for 8 network protocols
- Built a YAML-based method for specifying scan probes and associated information that allowed the team to add support for 60 new network protocols in only three days

PUBLICATIONS

Censys: A Map of Internet Hosts and Services

Zakir Durumeric, Hudson Clark, Jeff Cody, Elliot Cubit, Matt Ellison, Liz Izhikevich, and Ariana Mirian

ACM SIGCOMM Conference

Sept. 2025

EDUCATION

Purdue University

Bachelor of Science in Computer Science

West Lafayette, IN

Aug 2017 - May 2021