SCOTT CAO

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EXPERIENCE

***Facebook**, Software Engineering Intern*   Summer 2019
- *Remote Cache Service Debugging CLI*
  - Build a **Python** CLI tool that can talk to a remote cache service using **Thrift** serialization.
  - Allow on-calls to debug artifacts stored by cache service without using the client.
- *Monitoring System for Cache Corruption*
  - Launch a **Python** service that continuously reads build logs for corrupt cache artifact errors.
  - Automatically deletes bad cache artifact based on type of cache artifact error.

***Google**, Software Engineering Intern*   Summer 2018
- *Data Pipeline for Internal Access Data Aggregation*
  - Built a **Cloud Dataflow** pipeline in **Java** that applies **Apache Beam** functions to aggregate data from different **Spanner** tables.
  - Fine-tuned the order of transformations applied to resolve load-balancing issues.

***Indeed**, Software Engineering Intern*   Summer 2017
- *Local Dev Environment on AWS EC2*
  - Helped build infrastructure for spinning up local dev instances with 50+ **Docker** services on **AWS EC2**.
  - Wrote **Python** and **Bash** scripts that save local changes from **EC2** to **S3** so that local changes are not lost when instances are shut down.
  - Wrote **Lambda** Function that automatically starts EC2 instances for devs every day.
- *Employer Analytics*
  - Added interactive charts with data (click rate, applies) on posted jobs using **D3.js**
  - Helped employers understand how well their job postings are attracting job seekers.

EDUCATION

University of Texas at Austin, B.S. Computer Science   Aug 2016 - Dec 2019
- Turing Scholars Honors Program.
- Cumulative GPA: 3.87
- CS Coursework**:** Security, Natural Language Processing, SAT/SMT Solvers, Concurrency, Programming Languages, Algorithms, Operating Systems, Deep Learning, Computer Architecture, Data Structures.

PROJECTS

Toy Javascript Interpreter   Oct 2018 - Nov 2018
- Wrote an interpreter in **Haskell** for a basic subset of Javascript.
- Used a monad to propagate error messages in order to avoid repeating the same error checking code in every parse function.

Search Engine and Web Crawler   Dec 2016 - Jan 2017
- Wrote a **Java** application that can crawl a portion of the web and build a searchable index.
- Built abstract syntax tree to parse query and supported complex inputs with "and", "or", and "quotes".
- Implemented term frequency-inverse document frequency to rank the query results.

SKILLS

- **Proficient:** Java, C++, Python, HTML, CSS, C, Git.
- **Familiar**: Bash, Haskell, Rust, Javascript, Assembly, Verilog, Docker, Docker-Compose, Spanner, protocol buffer, AWS, Apache Beam, Cloud Dataflow, PyTorch, numpy.