

Arun Dunna

Software Engineer

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adunna@pm.me

<https://adunna.me>

Education

University of Massachusetts Amherst

M.S. Computer Science

Amherst, MA

May 2018 – Dec. 2020

Focus: Networks, security, machine learning, censorship systems, Internet law

University of Massachusetts Amherst

B.S. Computer Science, Minor: Mathematics

Amherst, MA

Aug. 2016 – May 2018

Experience

Yext, Inc.

Software Engineer

Washington, D.C. (Remote)

Jan. 2021 – Current

- Built pipeline and UI for management and deployment of NLP models for search engine product Answers. Currently handles over 800 models across 16 environments with an average latency of 20ms per model query.
- Worked on Answers backend (Java), resulting in performance improvements to Query Suggestion and Spell Check, such as reducing build times from exponential to linear time and configuration read times from 160 μ s to 1.7 μ s. Contributed to new product features such as query reranking.
- Worked on migration tooling in Go for automating move from internal systems to HashiCorp products.
- Responded to incidents and vulnerabilities, such as the Log4j zero-day Log4Shell.

Facebook, Inc.

Security Engineering Intern

Washington, D.C. (Remote)

May 2020 – Aug. 2020

- Built Chrome extension for internal investigators to track malicious actors, such as fraudsters, across the web.
- Found and patched various bugs, such memory leaks, reducing CPU usage for a widely-used security library.

IIJ Innovation Institute Research Lab

Research Intern

Tokyo, JP

Jun. 2019 – Aug. 2019

- Published paper *Sanitizing a View of Consumer Broadband in the United States* as the lead researcher, which won Best Open Dataset Award at TMA 2020.

University of Massachusetts Amherst

Research Assistant

Amherst, MA

May 2017 – Jan. 2021

- Lead research projects and collaborated on others, resulting in 3 publications, 3 presentations, and 2 posters.
- Designed and taught 4 courses for hundreds of undergraduates, such as *Digital Forensics* and *Intro to Unix*.

Publications

1. **Sanitizing a View of Consumer Broadband in the United States** *TMA, Jun. 2020*
2. **Characterizing the Deployment and Performance of Multi-CDNs** *ACM IMC, Oct. 2018*
3. **Analyzing China's Blocking of Unpublished Tor Bridges** *USENIX FOCI, Aug. 2018*

Skills

- **Languages:** C++, CSS, Hack, HTML, Java, JavaScript, LaTeX, Lua, PHP, Python, R, Rust, SQL, Zeek
- **Platforms:** Android, Unix & Unix-like, Web, Windows
- **Specializations:** Censorship systems, cryptography, cybersecurity, Internet policy, Internet measurement, machine learning, machine learning pipelines, networks, Unix & Unix-like systems
- **Technologies:** git, Mercurial, MySQL, numpy, OpenCV, PyTorch, React, sklearn, spaCy, scipy

Projects

- **OverStat**, <https://overstat.us> *Dec. 2020 – Current*
- **Text-Audio Synchronization Engine**, <https://github.com/adunna/tase> *Sep. 2018 – Feb. 2019*
- **sCTF**, <https://sctf.io> *Dec. 2014 – Jan. 2018*