

Arun Dunna

Software / Security Engineer

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Education

University of Massachusetts Amherst

M.S. Computer Science

Amherst, MA

May 2018 – Dec 2020

Focus: Networks, security, machine learning, and financial modeling

University of Massachusetts Amherst

B.S. Computer Science, *Minor: Mathematics*

Amherst, MA

Aug 2016 – May 2018

Experience

Meta Platforms, Inc. | Security Engineer

Remote, USA | Apr 2022 – Current

- Vulnerability research on internal and external software/hardware. Compiled reports (*e.g.* vulns, attack vectors, and fixes/improvements) and worked with PoCs to implement fixes. Filed relevant SEVs/incidents & CVEs.
- Lead security assessments involving internal and external PoCs, and managed other engineers on assessments.
- Built and maintained internal tooling (*e.g.* assessment and artifact tracker, deep permission checker across Meta, and others), and improved documentation and workflows for Security organization and Offensive Security Group.
- Took ownership of and cleaned/maintained multiple security oncalls. Built internal process for mentorship between senior and junior engineers in offensive security. Improved assessment prioritization framework for business goals.

Champria (Startup) | Consulting CTO / Tech Lead

Remote, USA | Sep 2021 – Feb 2022

- Designed and built foundations for infrastructure, products, and tech stack, then oversaw all development. System design and tech stack for all tech aspects, *e.g.* web products, infrastructure hosted on AWS using HashiCorp products for orchestration, custom-built CI/CD pipelines, robust GraphQL-based APIs for both internal and external use, high-performance database architectures with Postgres, & significant internal tooling.
- Worked with CEO, growth & design departments to rollout iterations of company's Esports analytics platform.
- Wrote all company technical guidelines, *e.g.* engineer performance review cycles, and documentation guidelines.
- Managed lead engineer & 5 software engineers, incl. advising, performance improvement plans, and code reviews.
- Instilled positive company culture & improvement-based development environment for engineers through policies.

Yext, Inc. | Software Engineer

Washington, D.C. | Jan 2021 – Apr 2022

- Built pipeline and React-based UI for managing and deploying models used in search engine product "Answers". Handled roughly 800 models across 16 environments, with an average latency of $\approx 20\text{ms}$ per model query.
- Worked on Java services such as Query Suggest and Spell Check, reducing build times by over 90% and configuration read times from $160\mu\text{s}$ to $1.7\mu\text{s}$. 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.

University of Massachusetts Amherst | Course Instructor

Amherst, MA | Jan 2019 – Dec 2020

- Wrote & taught courses *CS 365: Digital Forensics*, *CS 197U: Intro. to Unix*, and *CICS 191: First Year Seminar*.
- Managed 12 undergrad/grad course assistants & graders for my courses. Held office hours & advised students.

Facebook, Inc. | Security Engineering Intern

Remote, USA | May 2020 – Aug 2020

IIJ Innovation Institute Research Lab | Research Intern

Tokyo, JP | Jun 2019 – Aug 2019

University of Massachusetts Amherst | Research Assistant

Amherst, MA | May 2017 – Dec 2020

Publications

1. **Bringing Transparency to YouTube's Demonetization Algorithms** *ACM CSCW*, Nov 2022
2. **Sanitizing a View of Consumer Broadband in the United States** *TMA*, Jun 2020
3. **Characterizing the Deployment and Performance of Multi-CDNs** *ACM IMC*, Oct 2018
4. **Analyzing China's Blocking of Unpublished Tor Bridges** *USENIX FOCI*, Aug 2018

Skills

- **Languages:** C++, Hack, HTML + CSS, GraphQL, Java, JavaScript, Lua, PHP, Python, R, SQL, TypeScript
- **Platforms:** Android, MacOS, Unix & Unix-like, Web (Django, Flask, NextJS, Node, React), Windows
- **Specializations:** Censorship systems, full-stack development, Internet policy, Internet measurement, machine learning, ML pipelines, networks, research, security, software engineering, Unix & Unix-like systems