Arun Dunna
Software / Security Engineer

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https://adunna.me | adunna@pm.me

Education

University of Massachusetts Amherst — Amherst, MA
M.S. Computer Science — *May 2018 – Dec 2020*
Focus: Networks, security, machine learning, and financial modeling

University of Massachusetts Amherst — Amherst, MA
B.S. Computer Science, *Minor: Mathematics* — *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 ≈20ms 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 $160\mu s$ to $1.7\mu s$. 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++, Go, GraphQL, Hack, HTML + CSS, 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