ADITYA SALIGRAMA

(774) 270-7173 | aditya@saligrama.io | saligrama.io | github.com/saligrama | linkedin.com/in/saligrama

EDUCATION

Stanford University   Sep 2020 – Jun 2024
B.S. Candidate in Computer Science | GPA 3.9   *Stanford, CA*
- Coursework includes Cryptography, Computer and Network Security, Modern Internet Infrastructure, Parallel Computing, Embedded Operating Systems, Compilers, Algorithms, Machine Learning, Natural Language Understanding, Blockchain

EXPERIENCE

I. Work experience

Software Engineering Intern at **Lacework**   Jun 2022 – Sep 2022 at *San Jose, CA*
- Engineered end-to-end virtualization of benchmarking system on Spark, reducing data import time by 20x vs. Snowflake
- Contributed enhanced Snowflake and Spark parsing support to SQLGlot, an open-source SQL parser and transpiler; 3 PRs merged

Engineering Intern at **Uptycs**   Nov. 2020 – Apr. 2021 at *Waltham, MA*
- Wrote and deployed production feature to Osquery monitoring software to inspect and detect malware in Java packages
- Code now open-source; functionality used to detect and patch client software with Log4Shell vulnerabilities (10.0 severity CVE)

Security Consultant   Jun 2022 – Present
- Evaluating and strengthening initial setup and ongoing security of tech stack (incl. Firebase, AWS Lambda) for Stanford startups

Research Science Institute Intern at **Akamai Technologies**   Jun 2019 – Aug 2019 at *Cambridge, MA*
- Engineered realtime garbage collection monitoring system for Go programs with per-thread granularity
- Detailed flagging of stop-the-world pauses used for profiling and boosting performance across Akamai Labs codebase

II. Teaching, leadership, and competition experience

Teaching Assistant at **Stanford University**   Sep 2022 – Dec 2022 at *Stanford, CA*
TA for INTLPOL 268 (Hack Lab) taught by Alex Stamos, Riana Pfefferkorn
- Taught two discussion sections (44 students) for Stanford's intro cyber security, law, and policy course; 170 students enrolled
- Built course GCP infra; created labs including encrypted WiFi PCAP cracking and leaking data from insecure Firebase chat app

Vice President and CCDC Linux Lead at **Stanford Applied Cybersecurity**   Jan 2021 – Present at *Stanford, CA*
- Securing systems against external red teams in CCDC and DOE Cyberforce competition environments; 3rd place national finish
- Found and disclosed security vulnerabilities to 10+ startups, leading to data-protecting fixes; work covered in Stanford Daily
- Directed workshops on security basics for beginners and application security for entrepreneurs
- Presented on vuln-finding in Firebase apps; contributed Google OAuth login support to open-source Firebase exploration tool

III. Research projects and experience

- **Software patching dynamics** *(Stanford)*: Exploring how and when organizations patch vulnerable software on the internet
- **Parallel, human-interpretable ML** *(Harvard)*: Achieved linear speedup on CORELS increasing tractability of 250k+ sample datasets; short paper featured at SysML 2018 (57% acceptance rate); implemented R API and Node.js web UI
- **Rust concurrency evaluation** *(MIT)*: Developed fast, lock-free Rust concurrent hashmap with 140+ stars on GitHub
- **Adversarial machine learning** *(MIT)*: Designed ensemble schemes that increase accuracy while preserving adversarial robustness vs. single model; paper presented at ICLR 2020 workshop (44% acceptance rate)
- **Political polarity detection** *(Independent)*: Implemented novel two-step classification scheme for political bias increasing accuracy on long articles by 13%; paper published at AAAI 2020 student abstract program (48% acceptance rate)
- **Virtual assistants for customer support queries** *(Stanford)*: Created virtual assistant pipeline to classify customer support requests with GPT-3 data augmentation; increased sample data size by 4x

SKILLS

- **Languages**: C, C++, Python, Java, Go, Rust, JavaScript, HTML/CSS, SQL, ARM and x86 assembly, Bash, Markdown, LaTeX
- **Frameworks**: Django, Node.js, React.js, Next.js, PyTorch, Tensorflow, Hugo, Bootstrap
- **Technologies and Developer Tools**: Git, Unix, Docker, Packer, Osquery, AWS, GCP
- **Security Tools and Techniques**: Burp Suite, Wireshark, Metasploit, Network Scanning, Security Research, Vulnerability Disclosure

PUBLICATIONS

A. Saligrama, G. Leclerc. Revisiting Ensembles in an Adversarial Context: Improving Natural Accuracy. *ICLR:TML'20*, 2020.
A. Saligrama. KnowBias: Detecting Political Polarity in Long Text Content. *AAAI:SAP'20*, 2020.
A. Saligrama. KnowBias: A Novel AI Method to Detect Polarity in Online Content. *arXiv:1905.00724*, 2019.
A. Saligrama, A. Shen, J. Gjengset. A Practical Analysis of Rust's Concurrency Story. *arXiv:1904.12210*, 2019.
N. Larus-Stone, E. Angelino, D. Alabi, M. Seltzer, V. Kaxiras, **A. Saligrama**, C. Rudin.
Systems Optimizations for Learning Certifiably Optimal Rule Lists. *SysML (now MLSys) Conference*, 2018.

SELECTED AWARDS AND HONORS

- 3rd place team, National CCDC, 1st place, Western Regional CCDC (2022); 2nd place, NCCDC Wild Card and WRCCDC (2021)
- USA Computing Olympiad, Gold Division (2018 – 2020)