

ADITYA SALIGRAMA

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EDUCATION

Stanford University

Sep 2020 – Jun 2024

B.S. Candidate in Computer Science | GPA 3.91

Stanford, CA

- Coursework includes Cryptography, Computer and Network Security, Parallel Computing, Embedded Operating Systems, Compilers, Algorithms, Machine Learning, Natural Language Understanding, Blockchain and Cryptocurrency

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 for INTLPOL 268 Hack Lab at Stanford University

Sep 2022 – Present at Stanford, CA

TA for Alex Stamos, Riana Pfefferkorn

- Leading lab design, GCP infra., instruction for two discussion sections (44 students) for 170+ student intro security course

Vice President, DOE Cyberforce Captain, and CCDC Linux Lead

Jan 2021 – Present at Stanford, CA

at Stanford Applied Cybersecurity

- Securing systems against external red teams in CCDC and DOE Cyberforce competition environments; 3rd place national finish
- Directing workshops on security basics for beginners (Oct. 2022, 60+ in attendance) 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

- **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); co-first author of upcoming paper on parallel architecture; 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, Express.js, PyTorch, Tensorflow, Hugo, Bootstrap
- **Technologies and Developer Tools**: Git, Unix, Docker, Packer, 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)