

# ADITYA SALIGRAMA

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## EDUCATION

### Stanford University

Sep 2020 – Jun 2024

B.S. and M.S. Candidate in Computer Science | GPA 3.9

Stanford, CA

- Coursework includes Cryptography, Computer and Network Security, Modern Internet Infrastructure, Parallel Computing, Networks, Embedded Operating Systems, Compilers, Algorithms, Trust & Safety, Machine Learning, NLP, Blockchain

## EXPERIENCE

### I. Work experience

#### Head of Infrastructure and Security at Medeloop

Jun 2022 – Present at Palo Alto, CA

- Leading client & API deployment on AWS and organizational security posture for seed-stage rare disease data platform startup

#### 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)

#### 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 & Cloud Lead at Stanford Applied Cybersecurity

Jan 2021 – Present at Stanford, CA

- Led Linux and AWS security and network defense against external red team on 2023 National CCDC Champion (1st place) team
- 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 building social app startups
- Presented on [vuln-finding in Firebase apps](#) and on [vulns in Gradescope](#), influencing autograder design for Stanford CS courses

### 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

- 1st place (National Champion) National CCDC (2023), 3rd place NCCDC (2022), 1st place Western Regional CCDC (2022, 2023)
- USA Computing Olympiad, Gold Division (2018 – 2020)