Aditya Saligrama

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Computer science major at Stanford University with experience in security, systems, and machine learning

Education

Stanford University Sep. 2020 – Jun. 2024

B.S. Candidate in Computer Science (Systems track) | *GPA 3.91* *Stanford, CA*

- Coursework includes Cryptography, Computer and Network Security, Parallel Computing, Embedded OS, Compilers, Algos., ML

Experience

I. Work experience

Software Engineering Intern at **Lacework** Jun. 2022 – Sep. 2022 at *San Jose, CA*

- End-to-end virtualization of benchmarking system on Spark to speed up and simplify database usage vs. Snowflake
- Contributions to SQLGlot, an open-source SQL parser and transpiler

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 helped detect and patch client software with Log4j vulnerabilities

Freelance Security Consultant Jun. 2022 – Present

- Clients include Stanford startups; consultation on initial setup and ongoing security of tech stack

Research Science Institute Intern at **Akamai Labs** Jun. 2019 – Aug. 2019 at *Cambridge, MA*

- Wrote and deployed realtime garbage collection monitoring system for Go language programs with per-thread detail

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

- TA of 170+ student intro security course leading lab design and GCP infra., instruction for two discussion sections (40 students)

Vice President, DOE Cyberforce Captain, and CCDC Linux Lead Jan. 2021 – Present at *Stanford, CA*
at **Stanford Applied Cybersecurity**

- Responsible for securing systems against external red teams in CCDC and DOE Cyberforce competition environments
- Leading security basics workshops for beginners and application security workshops for entrepreneurs
- Presented on vuln-finding in Firebase apps; contributed to Baserunner, an open-source Firebase exploration tool

III. Research experience

Research Assistant at **Harvard University** Jun. 2017 – Present at *Cambridge, MA*

Supervised by Margo Seltzer, Cynthia Rudin

- Work on parallelizing CORELS, a machine learning algorithm that builds human-interpretable rule list models
- Co-first author of upcoming paper on systems optimizations that allow algorithm to scale to large datasets
- Implemented public web UI and R language API

Research Assistant at **Stanford University** Apr. 2021 – Dec. 2021 at *Stanford, CA*

Research at Open Virtual Assistant Lab (OVAL) supervised by Monica Lam

- Work on virtual assistants to classify customer support requests with GPT-3 data augmentation

Research Assistant at **MIT PRIMES** Jan. 2018 – Jun. 2020 at *Cambridge, MA*

Project I: Rust Concurrency Analysis | *Supervised by Jon Gjengset, Frans Kaashoek* *Jan. 2018 – Apr. 2019*

- Developed set of fast, lock-free concurrent hashmaps for the Rust language with 140+ stars on GitHub

Project II: Adversarial Machine Learning | *Supervised by Aleksander Madry* *Jan. 2019 – Jun. 2020*

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, 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 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)