

# Aaditya Rengarajan

Final Year Computer Science Undergraduate Student

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## EDUCATION

**PSG College of Technology (affiliated with Anna University)** Coimbatore, India  
*Bachelor of Engineering, Computer Science & Engineering.* CGPA: 7.77/10

## RESEARCH WORK

- CYBRANA: Cyber YARA/YAML-Based Resilience Firewall Solution with AI** 2024  
*Published, IEEE International Conference on Computer Vision and Machine Learning at IIIT Allahabad, India*  
• DOI: 10.1109/CVMI61877.2024.10782249
- SHADOW: Systematic Heuristic Analysis & Detection of Observations on the Web** 2024  
*Presented, IEEE International Conference on Artificial Intelligence, Metaverse, and Cybersecurity at RIT, Dubai*
- FLARE: Federated Learning & Resilient Encryption** 2024  
*Presented, IEEE Pune Section Conference (PUNECON) at Defence Institute of Advanced Technology, Pune, India*
- Enhancing the Resilience of Privacy-Preserving Machine Learning using Adversarial Techniques**  
*Presented, IEEE ICDSCNC, at Bangalore, India*
- Enhancing ADS-B using SAABE: Secure Authentication & ADS-B Encryption** 2024  
*Accepted, IEEE ICVISIP, Kunming, China.*
- Leveraging Detection of Data Breaches by using Snowball Sampling** 2022  
*Published, ICHPIC at PSG College of Technology, India.*
- SNAT - Secure Network Auditing in Transactions Logs** 2023  
*Submitted, IAENG International Journal of Computer Science.*
- LOCKNET - Logs on Crypto Key Network** 2023  
*Yet to Publish*
- SMURF: Secure Multi-Party Computation-Unified Resilient FL-Based Firewall** 2025  
*In Progress*

## WORK EXPERIENCE

- Security Operations Center Intern** May 2024 - July 2024  
*ISRO - National Remote Sensing Centre, Indian Space Research Organization* Hyderabad, India  
• SOC Systems, Server Administration, Python3, Flask, FastAPI, Bash, nginx
- Information Technology Intern** June 2023  
*EQUATE Petrochemical Company* Al Ahmadi, Kuwait  
• Server Administration, Web Development, Flask, Python3, ASP.NET, IIS
- Security Software Engineer** March 2022 - August 2023  
*Tactical Cyberange Simulations Pvt. Ltd.* Mysore, India  
• Python3, Face Recognition, REST API, FastAPI, Node.JS, React.JS
- Dark Web Monitoring, Software Engineering Intern** January 2022 - August 2022  
*Information Sharing and Analysis Centre* Noida, India  
• Dark Web, Web Scraping, Online Monitoring, Ethical Reporting

## TECHNICAL SKILLS

**Programming Languages:** C, Python, SQL, HTML, CSS, JavaScript, Java, Bash, Batch  
**System Frameworks:** IBM QRadar, VMWare ESXi, RedHat Ansible, Qualys Continuous Monitoring, SOC Operation Analyses, STIX/TAXII, Wazuh, MISP, Google Cloud Platform (GCP), Docker.  
**Frameworks & Tools:** Jupyter, Sublime Text, Figma, FastAPI, PostgreSQL, DBeaver, MongoDB, Flask, Git, Docker, Selenium, TensorFlow, Bootstrap, MySQL, NGINX, VPN Frameworks, Caddy, PM2, React.JS, Node.JS.  
**Operating Systems:** Windows, Arch Linux and Flavors, Debian Linux and Flavors, CentOS and RedHat Flavors & Android.

## PROJECTS

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- ML-Based Automated Incident Monitoring and Response Tool** | *Societe Generale* Feb 2023 - May 2023
- Engineered predictive analytics algorithms to detect anomalies, achieving 70% accuracy in preemptively identifying critical incidents with automated response mechanisms tailored to specific incident types
- CYBRANA** | *Indian Space Research Organization* Dec 2023 - Aug 2024
- Led the development of multi-layered cybersecurity analysis tool tailored for small and medium-sized enterprises (SMEs), significantly enhancing their ability to detect and respond to potential threats.
- ASTRA** | *Indian Space Research Organization* May 2024 - July 2024
- Designed and implemented ASTRA (Advanced Security Threat Response and Analysis), Cyber Threat Intelligence Framework integrating multiple STIX feeds and APIs to enhance detection of Indicators of Compromise (IOCs) through advanced data retrieval, masking.
  - Delivered comprehensive dashboard with quick lookup, log analysis and case management tools, leveraging encryption protocols and Private Set Intersection (PSI) for secure data handling, significantly improving response time to modern cyber threats.
- Vita-Link** | *PSG Hospitals* Aug 2022 - Dec 2024
- Created unified platform for managing Warfarin therapy, streamlining INR test tracking and dosage adjustments for over 500 patients.
- Material Tracking Dashboard** | *EQUATE Petrochemical Company* Dec 2023 - Aug 2024
- Tracks materials and work orders for the Reliability and Maintenance Department at EQUATE Petrochemical Company, Python-based web dashboard coded in Flask interacting with BAPIs coded in ABAP.
- General Maintenance Software** | *PSG College of Technology* Dec 2021 - Dec 2022
- Implemented platform for students to report maintenance-related issues, uses MongoDB, allowing administrators to swiftly log problems.

## CERTIFICATIONS, AWARDS AND RECOGNITIONS

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- First Prize in **IISF Space Hackathon 2024** primarily conducted by **Indian Space Research Organization**. Worked on cybersecurity firewall framework using A.I with 92.98% accuracy, alongwith YARA/YAML Rules and pattern matching.
- Ethically Hacked Domains:** Indian Navy (Principle Controller of Defence Accounts); Governments of India, UAE, Kuwait, Qatar; Nykaa, Razorpay, FlyBig, and other private industries.
- Recognized by **CERT-IN (Government of India)**, **NCSC (Government of Kuwait)**, **IT Head of FlyBig** for ethical hacking.
- Recognized by **EQUATE Petrochemical Company** for creating Material Tracking Dashboard tool with the Enterprise NetApps team.
- Third Place in "AI/ML HackMyPlace" Hackathon organized by **Société Générale** on developing AI/ML Incident Resolver.
- First Prize in "Web Replica" Event, Second Prize in "GitX" GitHub Collaboration and product development hackathon organized by **PSG College of Technology**.

## POSITIONS OF RESPONSIBILITY

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### Cybercrime Intervention Officer, National Security Database

- Advocating, training, facilitating first response support, networking, ensuring quality, gathering feedback, enforcing compliance.

### Founder & Director, The Eye, PSG College of Technology

- Created cyber-security society within the institution, developing mission-critical security software, resulting in 30% reduction in cyber threats. Delivered multiple workshops as key speaker, conducted multiple hackathons & events to spread knowledge on Cybersecurity, reaching over 300 students annually.

### Systems Programmer, Rocketry India

- Systems Programming at (<https://www.rocketryindia.in/>) assisting with innovative Ground Control Systems, and on-board flight systems. Worked on amateur rocket that reached an altitude (apogee) of 1km with recovery. Supporting the Avionics Team, coordinated with CAD, Propulsion, Aerodynamics and Recovery Teams. Report published on International Journal of Science and Research (<https://www.ijsr.net/getabstract.php?paperid=SR24104110501>).

### Technical Team Leader, Students' Union, PSG College of Technology

- Guiding team of developers and crafting software solutions for the institution, resulting in 25% decrease in administrative workload. Solutions garnered 20% increase in student engagement. Implemented rigorous security testing protocols.