



Aaditya Rengarajan

Cybersecurity Enthusiast

Master's Student

in Cybersecurity

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INTERNSHIP EXPERIENCE

	Role	Term	Domain	Organization	Duration
	AI Engineering Intern	January 2025 - June 2025	Machine Learning, Deep Learning, Agen-tic AI	Intel Corporation, India	6 Months
	Security Operations Centre (SOC) Intern	May 2024 - July 2024	Log Server Adminis-tration, Threat Hunt-ing, Web Develop-ment, Cybersecurity	Indian Space Research Organization, India	1 Month, 21 Days
	IT Intern	June 2023	Server Administra-tion, Web Develop-ment, Cybersecurity	EQUATE Petro-chemical Company, Kuwait	1 Month
	Security Software Engineer	March 2022 - August 2023	Cybersecurity, Python, Face Recog-nition, REST API	Tactical Cyberange Simulations Pvt. Ltd., India	1 Year 6 Months
	Software Engineer Freelance	August 2022 - Present	ReactJS, Python3, API Development, Mobile Apps	PSG Hospitals, India	1 Year, 10 months
	Penetration Testing and Software Engineering Intern	January 2022 - Au-gust 2022	Web Scraping, Cy-bersecurity	Information Sharing and Analysis Centre, India	7 Months

EDUCATION AND QUALIFICATIONS

- Graduate **Master of Science in Cybersecurity** at New York University Tandon School of Engineering.
- Undergraduate **Bachelor of Engineering in Computer Science and Engineering** at PSG College of Technology, Coimbatore (Affiliated to Anna University).
- Certified Cybersecurity Intervention Officer under ISAC India in October 2021.
- National Security Database Certified Penetration Tester under NATSEC ISAC in January 2022.
- Certified Application Security Practitioner by The SecOps Group in December 2022.
- Certified in Purple Teaming Fundamentals by CyberWarfare Labs in October 2023.
- Certified in Cybersecurity by ISC² in August 2023.

PROJECTS

- National Security Project** Apr 2023 - Jul 2023
Face Recognition for national security in Indian aerodromes
– Spearheaded adoption of secure coding principles for back-end API, resulting in decrease in known security vulnerabilities and safeguarding sensitive customer data.
- Company Security Posture Project** Jun 2023
Automated reconnaissance tool for verifying company's outside visibility and security posture.
– Software creation for automated reconnaissance process: public visibility assessment of organizational assets.
– Identified over 100 previously unknown public-facing assets, enabling proactive risk mitigation strategies.
– Enumeration of online hosts (IT and OT devices) with port exposure.
– Automated review for over 5,000 employee records for email breaches.
- Material Tracking Dashboard** Jul 2019 - Nov 2021
Petrochemical Plant Materials Tracking for Maintenance Planners. <https://equate.intellx.in/>
– 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.
– Adoption of tool resulted in \$327,600 reduction in annual expenses.
- General Maintenance Software** Dec 2021 - Dec 2022
Maintenance management made easier for colleges and universities. <https://gms.psgtech.ac.in/>
– Platform for students to report maintenance-related issues, uses MongoDB, allowing administrators to swiftly log problems.
– Feedback surveys indicate 85% increase in overall satisfaction.

RESEARCH PROJECTS & PUBLICATIONS

- **CYBRANA: AI-Driven Cyber Security Resilience Firewall.** Developed a robust firewall leveraging YARA/YAML rules with advanced AI techniques for early detection of cyber threats. Mapped attacks to MITRE CAPEC, integrating server logs with existing frameworks to enhance defense and security visibility. Accepted and presented at 3rd IEEE International Conference on Computer Vision and Machine Intelligence (CVMI), Prayagraj, India, 2024.
- **Privacy-Preserving Machine Learning using Adversarial and Encryption Techniques.** Proposed an integrated framework combining adversarial methods, differential privacy, and homomorphic encryption to address privacy concerns in ML models. Provides balance between utility and privacy, contributing to offensive security tactics in ML environments. Presented at 1st IEEE International Conference on Distributed Systems, Computer Networks and Cybersecurity (ICDSCNC), Bangalore, India, 2024.
- **SHADOW: System Heuristic Analysis and Detection Framework.** Designed a system for heuristic web observation analysis integrating Named Entity Recognition (BiLSTM), blockchain Proof-of-Authority, and secure cloud infrastructure. Enables threat detection from diverse web sources, and ensures integrity in digital forensics. Accepted at IEEE International Conference on Artificial Intelligence, Metaverse, and Cybersecurity (ICAMAC), Dubai, 2024.
- **Warfarin Dosage Estimation using XGBoost-Based Pharmacogenomic ML Framework.** Created a specialized machine learning model utilizing pharmacogenomic data and XGBoost for personalized warfarin dosage prediction. Employed XAI for model explainability and clinical validation. Full pipeline under preparation for submission to a Q1/Q2 international medical journal. Presented at IEEE International Conference on Machine Learning and Cybernetics (ICMLC), 2025. Pipeline submitted for Q1/Q2 journal publication 2026.

CERTIFICATIONS, AWARDS AND RECOGNITIONS

- First Prize in **IISF Space Hackathon 2024** primarily conducted by **Indian Space Research Organization**. Worked on a cybersecurity firewall framework using AI 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 and Second Prize in "GitX" GitHub Collaboration and product development hackathon organized by **PSG College of Technology**.

POSITIONS OF RESPONSIBILITY

- **Cybercrime Intervention Officer**, National Security Database: Advocating, training, facilitating first response support, networking, ensuring quality, gathering feedback, and enforcing compliance.
- **Club Founder & Director**, The Eye: Created a cyber-security club within my undergraduate institution, developing mission-critical security software, resulting in 30% reduction in cyber threats. Delivered multiple workshops as key speaker and conducted multiple hackathons and events to spread knowledge on Cybersecurity, reaching over 300 students annually.
- **President**, Cybersecurity Club @ NYU: Conducting HackNights (industry workshops) and CTF101 trainings every week for all students of NYU
- **Executive Board Member**, OSIRIS Lab: Ensuring smooth operations of the Offensive Security, Incident Response and Internet Security Research Lab at NYU. Leading the PR & Outreach team and operations management, as well as authoring CTF challenges for the Annual Cybersecurity Awareness Week International Conference event.
- **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, and 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.

TECHNICAL SKILLS

- **Programming Languages:** C, Python, SQL, HTML, CSS, JavaScript, Java, Bash, Batch
- **Tools and Frameworks:** Jupyter, Sublime Text, Figma, FastAPI, PostgreSQL, DBeaver, MongoDB, Flask, Git, Docker, Selenium, TensorFlow, Bootstrap, MySQL, NGINX, PM2, BurpSuite, POSTMAN, NMap, VMM/Hypervisors, Mimikatz.
- **Operating Systems:** Windows, Manjaro Linux (Arch-Based), Ubuntu and Kali Linux & Android.
- **Artificial Intelligence:** LLMs (LLaMA, Mistral, GPT, Gemini), PEFT (LoRA, QLoRA), RAG Pipelines, Model-Chain-of-Thought Processing (MCP), Transformers, Attention Mechanisms, Hugging Face, OpenAI API, Prompt Engineering, AI Security (Adversarial Robustness, PPML, Differential Privacy, Homomorphic Encryption), MLflow, PyTorch, TensorFlow, Scikit-learn, NLP, and Model Fine-tuning.
- **Additional Skills:** Premiere Pro, Photoshop, AfterEffects, Lightroom, Blender, GIMP, OBS Studio, FL Studio.