

Prince Bhardwaj

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EXPERIENCE

University of Surrey

Research Engineer

Guildford, UK

Aug. 2024 - present

- Developing and Integrating privacy-preserving techniques and equipping cross-functional engineering with necessary tool to ensure the responsible data use.

CyRAACS, PVT. LTD

Penetration Tester

Bangalore, India

Jan. 2024 - present

- Executed vulnerability assessments & manual pen testing using (licensed/open-source tools). Leveraged OWASP Top 10 for web app & API security. Delivered detailed CERTIn reports & collaborated on remediation plans.

Samsung Research & Development Lab

Research Fellow

Bangalore, India

May. 2023 - Oct. 2023

- Developed an energy-efficient xAPP for distributed HTAP systems, optimizing performance through idle computing times and supporting user-space scheduling for diverse workloads, including transactional processing and RDMA requests.

Ben - Gurion University of Negev

Security Researcher

Tel Aviv, Israel

Feb. 2023 - Apr. 2023

- Developed machine learning methods to identifying the attack in real-time and mitigating as well, achieving an accuracy rate of 73% and actively refining for higher precision.
- Using neural networks, showcasing continuous innovation in the fight against cyber-attack. The project represents a significant step forward in enhancing security, authenticity and integrity using LLM Models.

SRM University

Research Assistant

Chennai, India

Sep. 2022 - Jan. 2023

- Designed mitigation system to counter energy-oriented DDoS attacks on smart home IoT networks. Leveraged machine learning techniques and LLM models for threat detection and response.
- Implemented algorithms, anomaly detection, and real-time monitoring to safeguard IoT devices. The solution efficiently combats attacks while ensuring minimal energy consumption in smart home environments.

Selected PROJECTS

- QR Code Security** (*Bachelor's Thesis*) leveraged advanced Machine Learning algorithms and cloud technology while addressing ethical concerns about user privacy and mitigating QR code abuse through a comprehensive system for generation and consumption of data.
- Open-Source Inspector** (*Collaborative course project*) Employed advanced Machine Learning algorithms to identify trustworthy contributors and analyze security vulnerabilities in open-source projects.
- SimpleDB** (*Course project*) A built-from-scratch database management system that supports most of the basic SQL and advanced features including indexing and table joins.
- Mini-Compiler** (*Course project*) A compiler for an educational C-subset language. Implementation includes the full stack of compiler construction.
- IoT Under Attack** (*Research project*) a machine learning-based energy-efficient mitigation system to counter DDoS attacks on smart home IoT networks. Research paper is under submission.
- CodingFingers** (*Personal project*) A terminal themed typewriting practice website for students. Handled 500+ traffic uses per day, built to help students improve their typing skills and learn the basics of the terminal.
- Anonymous Portal** (*Personal project*) Secured and encrypted platform developed in a hackathon for my state's cybercrime department for civilians to report cybercrime anonymously. Took this project to the Smart India Hackathon Finals.

EDUCATION

SRM University

Chennai, India

Bachelor's degree in computer science; 9.1/10

Dissertation: "IoT Under Attack – Designing Techniques to Mitigate energy oriented DDOS attack".

Course	Grade	Course	Grade
Computer Organization	A+/9.0	Introduction to Database Management System	O/10
Software Engineering	A+/9.0	Computer Network	O/10
Compiler Design	O/10	Formal Languages and Automata	A+/9.0

TECHNICAL SKILLS

Software Development, Application and Network Security. Extensive knowledge of operating systems, compiler, Research Oriented, Bug Bounty, CTF, and networking protocols (TCP/IP, Routing, HTTP, DNS, DHCP, IPS, IDS, Firewall, Proxy)

Languages: C/C++, Python, Go, Bash, JavaScript, SQL, CodeQL

Tools & Technologies: Linux (Local, VM and in Cloud), Windows, Git, GitHub Actions, Burp Suite, Metasploit, Nessus, Nuclei and other vulnerability scanners, IDA, Ghidra, Docker, MySQL, MongoDB, SQLite, VSCode, Wireshark, Postman, VAPT, Digital Forensics, LATEX, Machine & Deep Learning, LLM Finetuning, GenAI

AWARDS AND HONORS

- Accepted into the Ben-Gurion University Summer Program in Advanced Cyber Security and Anomaly Detection, hosted in Negev, Israel
- Selected to participate in the prestigious Stanford Summer Session 2023 program
- Recognized by EC-Council as a **Computer Hacker and Forensics Investigator (CHFI)** with a score of 86%
- Achieved Microsoft Corp. **Azure Cloud** Fundamentals (AZ-900) certification with an outstanding 80% score
- Received Best Research Paper Award at National Cyber Security Conference 2023 by Defense Research and Development Organization (DRDO) – Combat Vehicles Research and Development Establishment (CVRDE)
- Invited as Speaker at UTAR University, Malaysia to give a session at Annual Cyber Security Conference

Certificate Links: <https://drive.google.com/drive/folders/1ywudBvKfivs8V3t3YuIklPRzEd8Bx0UQ?usp=sharing>

SCIENTIFIC PUBLICATIONS

- "IoT Under Attack: Designing Techniques for Mitigating Energy-Oriented DDOS Attacks on Smart Home Networks"** paper accepted in NIELIT's International Conference on Communication, Electronics and Digital Technologies (NICEDT – 2024) and publishing under Scopus indexed Springer Journal Lecture Notes on Network and Systems Book Series. [LINK](#)
- "Enhancing QR Code Security using Visual Cryptography"** paper accepted in IEEE 2nd 2024 World Conference on Communication and Computing (WCONF) and publishing under IEEE Xplore publication. ([Under Publication](#))

TEACHING AND ACADEMIC SERVICE

- Speaker at multiple International/National level conferences
- Chair, Student Research Workshop at SRM 2023
- Teaching Assistant at Department of Information Technology (Internet Security and Digital Forensics) - Fall 2022
- Area Chair at SRM Research Day 2022 (Track: Security)
- President at Community of Hackers and Advanced Technologists, Tech Lead at Logic Play (Open-Source community)

LANGUAGES

- Hindi:** Native speaking.
- English, German, Tamil:** Professional Working Proficiency