

ARSHDEEP SINGH

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PROFESSIONAL EXPERIENCE

Pace University, Office of the Dean | New York, NY | Graduate Assistant September 2024 – Present

- Support instruction in network security, ethical hacking & operating systems concepts for 100+ graduate students, tutoring students in practical concepts using Virtual Machines & technical tools to foster hands-on learning environment.
- Grade lab assignments & provide informed feedback, ensuring clarity and adherence to academic standards for 47 students, assist in onboarding new students to the class resources.
- Troubleshoot Cyber Range cybersecurity platform issues, maintaining a 95% uptime, minimizing disruptions during instructional hours & improving user experience for course material.

Cerence Inc. | Pune, India | Software Developer Intern January 2023 – July 2023

- Developed JSON-based tour generation & stateful geo-fencing modules, enabling efficient creation of interactive guided tours, enhancing responsiveness by 25%.
- Diagnosed app crashes, patching key bugs within POI audio triggering and email system, increasing product reliability by 40%, decreasing crash times by 7 minutes.
- Led project to enhance overall experience through implementing GenAI features, designing wireframes and visuals for POC applications, collaborating with researchers to integrate a LLM into the UI.
- Streamlined release documentation, detailing changes, enhancements, and bug fixes to ensure clarity across stakeholders, leading to 15% decrease in post-release support inquiries.
- Automated audio generation for way-point description, utilizing Text-to-Speech services to obtain mp3 responses for 8 diverse routes, gauging word recognition rates & minimizing loss percentages.
- Gathered customer insights on tour experiences, integrating feedback API, doubling form submissions from 500 to 1000 & driving actionable improvements for product evolution.

PROJECTS & COMPETITIONS

AI Prompt Injection Challenge: HackLLM July 2024

- Designed multi-level security challenge utilizing Streamlit & LLaMa3 AI Model, facilitating hands-on learning experience, and educating users on the implications of prompt injection attacks on large language models.
- Incorporated API to respond to system prompts, setting the difficulty for all 5 levels, challenging the user to adopt exploitation strategies, demonstrating malicious inputs bypassing AI safeguards.

Data Privacy versus National Security Debate April 2024

- Awarded Most Valuable Debater title for constructing arguments in favor of data privacy emphasizing the importance of individual privacy rights & potential issue with excessive government surveillance.
- Presented evidence-based argument to panel of cyber professionals & audience of 50+ students, advocating constitutional principles & public sentiment regarding loss of control over personal data, supported by federal laws.

Qakbot Malware Analysis March 2024

- Conducted static & behavioral analysis of Qakbot malware using IDA & PESTudio, documenting malware capabilities, identifying 14+ key indicators of compromise and recommending mitigation strategies.
- Presented findings on evasion tactics, including DLL hijacking & registry manipulation, recommending use of email filtering systems & unauthorized execution prevention to reduce the malware attack surface.

One-Time Password Vulnerability Assessment February 2024

- Leveraged BurpSuite to analyze critical vulnerability allowing OTP bypass via response manipulation on organization's website, prompting implementation of robust security measures.
- Crafted structured bug report highlighting absence of encryption standards leading to ability of users to tamper with booking values, recommending input validation & 2-factor authentication to secure user access.

EDUCATION

Pace University, Seidenberg School of Computer Science & Information Systems New York, NY

Master of Science (MS) in Cybersecurity | **GPA: 4.0** December 2024

Courses: Network Security, Malware Analysis, Ethical Hacking & Penetration Testing, Cyber Intelligence, Information Security

Symbiosis International University, SIU Pune, India

Bachelor of Technology (B.Tech) in Computer Science & Engineering | **Honors:** Security & Privacy June 2023