Rana Hussain

Downers Grove, IL | rhussain@alumni.nd.edu| linkedin.com/in/ranahussain | ranahussain.com

Education

University of Notre Dame — Notre Dame, IN
Master of Science, Computer Science & Engineering — May 2026

North Central College — Naperville, IL
Bachelor of Science — May 2021
Double Minor in English Writing and Mathematics

Research Experience

Master's Thesis: A Tool for Detecting Adversarial Remote IT Workers
Thesis Advisor: Dr. Aaron Striegel

State-sponsored operatives are posing as legitimate remote IT workers to infiltrate companies, a widespread problem the FBI and CISA have issued advisories on. Standard detection tools miss them because nothing about the worker, their setup, or their network traffic looks anomalous. My thesis asked whether the AI-generated voice these operatives rely on can be distinguished from human speech using only observable network behavior, without access to audio content. I conducted an empirical study on collected data containing both synthetic and real speech. Through analysis of the encrypted traffic, I achieved 92% accuracy in separating the two, showing that synthetic speech leaves a measurable signature in network metadata alone.

Professional Experience

Sentinel Technologies Inc — **Downers Grove, IL**
Threat Intelligence Analyst — *June 2026 - Present*

Built and maintain our self-hosted MISP and OpenCTI threat intelligence platforms to correlate threat actors, campaigns, and IOCs. Research emerging vulnerabilities and adversary tactics, mapping findings to the MITRE ATT&CK framework to produce technical briefs and advisories. Conduct threat hunts, provide dedicated hunting guidance for vulnerabilities and zero-days, and supply intelligence to the threat hunting team. Collaborate with the incident response team. Observe client incident response tabletop exercises run through our MSSP, following simulated attack scenarios and noting how teams handle detection, escalation, and containment decisions. Currently evaluating open-source tools, and the option of building custom tooling, for dark web monitoring to broaden our intelligence coverage.

University of Notre Dame — **Notre Dame, IN**
Graduate Teaching Assistant, Computer Science & Engineering — *August 2024- May 2026*

- Teaching Assistant for Discrete Mathematics
- Teaching Assistant for Logic Design
- Teaching Assistant for Principles of Computing
- Teaching Assistant for Human Computer Interaction

Sentinel Technologies Inc — **Downers Grove, IL**
Threat Detection Engineering Intern — *May 2025- August 2025*

Designed and developed alarms for multiple products by conducting thorough R&D and collaborating with onboarding teams to prepare data sources. Created comprehensive alarm logic, assigned risk scores, and correlated threats with MITRE framework categories to enhance detection capabilities.

Security Investigation Analyst II *September 2023- May 2024*

Led investigations to protect customer data by monitoring security systems, identifying suspicious activity, and resolving security threats. Led investigations to protect customer data by monitoring security systems, identifying suspicious activity, and resolving security threats. Mentored Level 1 security analysts, provided direct technical support to customers, and assisted in security audits and investigations.

Threat Research & Reporting Analyst *October 2022 – September 2023*

Championed and executed the automation of monthly and quarterly security reports, significantly improving efficiency. Engineered custom dashboards and unique alarms in Splunk by writing code in Splunk Search Processing Language (SPL) to meet diverse client security needs. Performed research on penetration testing and the latest cyber threats, producing detailed reports for clients and executives.

Security Analyst *May 2021 – November 2022*

Acted on high-priority security tickets to triage and validate alerts as true or false positives, ensuring rapid and accurate threat response. Built and delivered monthly security review reports for a diverse customer base. Led client onboarding meetings and conducted ActiveDefense demos to ensure smooth integration and understanding of security services.

Relevant Courses

- Computer Security
- Special Topics in Advanced and Secure Networks
- Research Methods
- Graduate Networks
- Special Topics in Machine Learning and Artificial Intelligence
- Cybercrime and the Law

Certifications

- CompTIA Security+
- CompTIA Network+ [In Progress]
- Microsoft Certified: Security, Compliance, and Identity Fundamentals
- Microsoft Certified: Azure Fundamentals
- Splunk Core Certified User
- Splunk Core Certified Power User
- Splunk Core Certified Advanced Power User

Leadership & Service

- Vice President, Graduate Student Government (University of Notre Dame)
- Team Lead, CS4GOOD: Computer Science for Good (University of Notre Dame)
- President, Dev131: Computer Science Club (North Central College)
- Writing Center Tutor (North Central College)
- Member, Blue Key: Leadership, Ethics, and Values Honors Society (North Central College)
- Editor, 30 North: Undergraduate Literary Magazine (North Central College)
- President, Sigma Tau Delta: International English Honors Society (North Central College)