

# Ranjeet Gujar

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Halifax, NS

## EDUCATION

### Dalhousie University

Halifax, NS

*Bachelor of Computer Science*    *Work Term Availability: Fall 2026 (4 months)*

*September 2024 – Expected 2028*

## PROJECTS

### Python Port Scanner | *Python* | [github.com/gujjar23/python-port-scanner](https://github.com/gujjar23/python-port-scanner)

2026

- Built a multithreaded TCP port scanner using Python's **threading** and **queue** modules, supporting up to **500 concurrent threads** for high-speed network reconnaissance across **65,535 ports**
- Implemented service fingerprinting across **40+ well-known ports** (HTTP, SSH, FTP, RDP, MySQL, etc.) with real-time colored CLI output and live ASCII progress tracking
- Reduced average full-range scan time by **~80%** vs single-threaded baseline through concurrent thread pooling and queue-based task distribution

### Password Strength Checker | *Java* | [github.com/gujjar23/password-strength-checker-java](https://github.com/gujjar23/password-strength-checker-java)

2026

- Developed a **3-tier classification system** (weak / moderate / strong) evaluating passwords across **5+ criteria** including length, character diversity, and complexity rules
- Engineered **modular Java architecture** across **4+ classes**, providing actionable per-criterion feedback to guide users toward stronger passwords

## EXPERIENCE

### Research Intern — NSERC CREATE Cybersecurity Program

May 2026 – August 2026

*Dalhousie University (Supervisor: Dr. Srinu Sampalli)*

*Halifax, NS*

- Conducting security vulnerability research across **2 IoT-cloud protocols** (MQTT and REST APIs), performing **5+ attack simulations** including MITM, DoS, replay, and false data injection attacks
- Reviewed **10+ IEEE and ACM papers** to map attack vectors and mitigation strategies; identified **3 novel cross-protocol research gaps** not addressed in existing literature
- Designed and deployed a **2-device cybersecurity testbed** (Raspberry Pi 4 & 5) running live MQTT brokers integrated with **AWS IoT Core** for real-world attack experimentation
- Evaluated **3 security mechanisms** (authentication, authorization, encrypted data transmission) across MQTT and REST API stacks in a live cloud environment
- Delivered **5+ weekly progress reports** to faculty supervisors, documenting findings and iterating on experimental design

### Research Assistant — AI/ML Project

May 2025 – January 2026

*Persuasive Computing Lab, Dalhousie University*

*Halifax, NS*

- Conducted a structured literature review of **100+ academic papers** across **9 months**, identifying key trends and research gaps in AI/ML models for human-computer interaction
- Designed project methodologies and timelines for a **multi-phase ML research initiative**, coordinating deliverables across **3+ stakeholder groups** including faculty and lab researchers
- Produced **10+ technical documentation artifacts** (research summaries, methodology docs, progress reports) supporting subsequent experimental phases

### CTF Competitor — Team Sloop

2026

*Dalhousie University CTF Competition*

*Halifax, NS*

- Solved **35+ challenges** and accumulated **2,200+ points** across **4+ categories**: web exploitation, cryptography, digital forensics, and reverse engineering
- Ranked **5th out of all Dalhousie University teams** and **70th globally** in the open-division leaderboard among hundreds of competing teams

### Course Representative, CSCI 1300

January 2025 – April 2025

*Dalhousie University*

*Halifax, NS*

- Elected representative for **100+ students**; gathered structured feedback across **4 months** and presented findings to faculty, directly contributing to **2+ course delivery improvements**

- Organized **bi-weekly** peer study sessions, improving student engagement and supporting classmates with course material throughout the term

## Crew Trainer

October 2024 – Present

*McDonald's — Spring Garden*

*Halifax, NS*

- Trained and onboarded **30+ new crew members** on food safety protocols, service standards, and operational procedures across **18+ months** in a high-volume environment
- Reduced average new-hire ramp-up time by consistently delivering structured **3-day onboarding** sessions; maintained **100%** adherence to health and safety standards during all trained shifts

## CERTIFICATIONS

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**Networking Basics** | *Cisco Networking Academy (ICTC)* | [View Credential](#)

November 2025

**Introduction to Cybersecurity** | *Cisco Networking Academy (ICTC)* | [View Credential](#)

October 2025

## TECHNICAL SKILLS

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**Languages:** Python, Java, HTML, CSS, JavaScript, SQL

**Tools & Platforms:** Git, Linux, Windows, macOS, AWS IoT Core, Cisco Packet Tracer, Nmap, Wireshark, Microsoft 365, Active Directory

**Cybersecurity:** Network Scanning & Reconnaissance, MQTT Security, IoT-Cloud Security, Cryptography, Offensive & Defensive Security, Incident Triage, CTF Problem Solving (TryHackMe Top 15%)

**Research & Communication:** Literature Review, Technical Documentation, Stakeholder Communication, Research Reporting, Presentation Skills

## ACADEMIC ACHIEVEMENTS

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Ranked in the **National Top 1.25%** among 1,200,000+ candidates in JEE Mains 2022 (India)

Secured **2nd Place** in School-Level Science Model Competition

Led School Soccer Team to **State-Level Championships**