# Raghava Gatadi

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## EDUCATION

**Master of Engineering(M.Engg), Professional Cybersecurity** — Sep 2025 – May 2027 (Exp)
University of Maryland — College Park, Maryland

**Bachelors in Technology(B.Tech), Computer Science and Engineering** | GPA: 8.29/10 — Dec 2021 – Jul 2025
Indian Institute of Information Technology, Dharwad — Karnataka, India

## TECHNICAL EXPERIENCE

**Intern, Secure Systems Lab** — May 2024 – Aug 2024
New York University (Remote)
*Gittuf – Building a New Security Layer for GitHub*

- Engineered the gittuf-git subcommand in Go, integrating core Git operations (push, pull, clone) with Gittuf's security features, thereby strengthening secure version control workflows.
- Increased automated test coverage by 22% across multiple Go project directories using Go's native testing framework and coverage tools, enhancing reliability and reducing potential defects.
- Collaborated with cybersecurity researchers to design and refine features, providing technical insights that improved system security posture and project outcomes.

## TEACHING & ADVISING EXPERIENCE

**Teaching Assistant, Introduction to Cybersecurity (CS151)** — Aug 2024 – Dec 2024
Indian Institute of Information Technology, Dharwad — India

- Developed and structured comprehensive CS151 lecture content and reference materials, ensuring all instructional materials aligned with key cybersecurity concepts and course learning objectives.
- Designed and produced visually compelling presentation slides to reinforce core cybersecurity principles for the class, significantly aiding student understanding of complex topics like network security and cryptography.
- Contributed to the overall effectiveness of the course by actively assisting the professor in curriculum organization and material preparation for the Introduction to Cybersecurity course.

## TECHNICAL PROJECTS

**AES in Socket Programming** [Independent] — Jan 2024 – Apr 2024

- Engineered a secure client-server model using socket programming, implementing AES encryption/decryption (128, 192, 256-bit).
- Developed a robust key management mechanism for secure cross-platform data exchange (Unix/Windows).

**Password Manager** [Independent] — Sep 2023 – Dec 2023

- Built a secure, command-line Password Manager with MySQL integration for encrypted storage.
- Implemented master validation and a random generator to produce robust, complex passwords.

**Vulnerability Assessment and Exploitation of Metasploitable** [Independent] — Aug 2023 – Nov 2023

- Executed a comprehensive vulnerability assessment using Nmap and Nessus.
- Leveraged Metasploit to successfully exploit targets via FTP, SSH, and Telnet.

## RESEARCH PROJECTS

**Federated Learning-Based Intrusion Detection in IoT Networks** | Undergraduate major project — Jan 2025 – Apr 2025

- Built a multi-stage IoT intrusion detection system using Autoencoders, Random Forest, XGBoost, and CNN.
- Simulated federated learning to create a scalable, robust model and tested against data poisoning and DoS attacks.
- Achieved 69% global model accuracy on the Aposemat IoT-23 dataset, validating federated learning for distributed detection.

**PUF Based Hardware Security Research |** Undergraduate minor project Aug 2024 – Nov 2024

- Co-authored a paper proposing a lightweight Wi-Fi authentication and key exchange protocol for IoT devices.
- Designed the protocol using PUFs and nonce-based XOR for secure mutual authentication and protection against spoofing/replay attacks.
- Achieved high scalability with only 6n bits of storage and 8 PUF + 4 hash operations per authentication.

**Fake News Detection |** Undergraduate minor project Jan 2024 – Apr 2024

- Conducted literature review and implemented deep learning/NLP models (TF-IDF, Word2Vec, BERT).
- Achieved improved accuracy on the TruthSeeker dataset.
- Improved model accuracy by 30% on the TruthSeeker dataset compared to prior baselines

## SKILLS & CERTIFICATIONS

**Programming:** Python, C, C++, Go, Java, Bash
**Cloud Infrastructure:** VPC Design (CIDR/Subnets), Multi-Cloud Orchestration (AWS/GCP), Hybrid Connectivity, VPC Peering, Secure Routing (IGW/Route Tables).
**Cloud Security & GRC:** IAM Hardening (PoLP/RBAC/STS), CloudTrail Forensics, VPC Flow Logs, IMDSv1/v2 Exploitation, Cloud Enumeration, CIS Benchmarking, HIPAA Compliance, IaC Security, Disaster Recovery (RTO/RPO).
**Security:** SOC Workflows, IR, SIEM (Splunk/ELK), Threat Hunting, Detection Engineering, MITRE ATT&CK Mapping, Pentesting, OWASP Top 10, Privilege Escalation, Vulnerability Assessment.
**Tools & Platforms:** Terraform, CloudFormation, AWS CLI, gcloud SDK, Nmap, Burp Suite, Metasploit, Wireshark, Security Onion, Sysmon, Kali Linux, TryHackMe, HackTheBox.
**Web/Database:** HTML, CSS, JavaScript, Django, Node.js, SQL, MongoDB.