Kaushik Kamal Kalita

Codolio GitHub LinkedIn

2nd Year Postgraduate
Department of Computer Science & Engineering

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EDUCATION

- **National Institute of Technology Karnataka** Surathkal, India
  Master of Technology – Computer Science & Engineering (Information Security); **CGPA: 8.64**
  Aug 2023 – Present
- **The Assam Kaziranga University** Jorhat, India
  Bachelor of Technology – Computer Science & Engineering; **CGPA: 8.73**
  Aug 2017 – Jun 2021

WORK EXPERIENCE

Samsung Research and Development Institute Bangalore (*2025-present*)
Software Development Intern

- Currently working with the Samsung On-Device AI Team, focusing on the development of **LLM Agentic AI framework**s to enhance security in multi-agent systems.
- Implementing authentication, authorization, and end-to-end encryption mechanisms to ensure secure communication and interaction between individual AI agents
- Implemented a privacy-preserving system to extract **Personally Identifiable Information**(PII) using a Named Entity Recognition (NER) model. Applied encryption using **Kyber PQC** to secure extracted PII for safe and confidential prompt communication.

PROJECTS

- **Automated SELinux Policy Adjustment for Vulnerability Mitigation in Android and Fedora** (*2024- Ongoing*)
  Mentor: Dr. Radhika B S
  - Proposed an architecture for **automatically adjusting SELinux policy** to mitigate vulnerabilities in **Android and Fedora**.
  - Utilized **Natural Language Processing techniques** to train a network model for **automatic classification** of vulnerabilities from the **CVE repository**.
  - Collected and analyzed **130,000 SELinux policy rules**, modifying **SELinux rules** based on classification results and audit logs to mitigate vulnerabilities.
- **Smart Irrigation System using IoT and Machine Learning** (*2020-2021*)
  - Developed a **smart irrigation system** leveraging **IoT**, **data analysis**, and **machine learning** to optimize water application and scheduling.
  - Utilized **NodeMCU**, **DHT-11** sensors for temperature and humidity, **soil moisture sensors**, and **LDR sensors** to monitor environmental factors.
- **Advanced Hexacopter for Flood Plain Analysis** (*2019-2021*)
  Mentor: Dr. Sajal Saha
  - Developed a hexacopter with **Pixhawk flight controller**, **GPS Loiter Mode**, **RTL**, and **Self Stabilize**. Supports payloads **up to 3kg**, with **15-20 minutes** flight time for extended data collection missions.

SKILLS SUMMARY

- **Programming Languages:** C, C++, Python
- **Software and Tools:** Git, Langchain, CrewAi, ADB, Android Studio, Arduino IDE, Linux, Windows.
- **Soft Skills:** Effective Communication, Teamwork, Problem-Solving , Time Management, Leadership

AWARDS & ACHIEVEMENTS

- Winner of **IBM ICE DAY** 2018 Technical Paper Presentation.
- Secured a RS.20,000 grant from **Assam Science and Technology Council** in 2019 for IoT based safety glass project.
- Cloud Computing &Virtualization Graduate Issued by **IBM**.

PUBLICATION

- **An IoT-Based Architecture for Edge Computing to Reduce the Latency and Bandwidth for Streaming Data Application**
  Bharadwaj C., Saha S., Kalita K.K., Mukhopadhyay A.K. (2022). In: Mandal, J.K., Roy, J.K. (eds) **Proceedings of International Conference on Computational Intelligence and Computing. Algorithms for Intelligent Systems. Springer, Singapore.** `https://doi.org/10.1007/978-981-16-3368-3_30`