Sangeeta Kakati

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EDUCATION

University of Luxembourg, Proximus — Luxembourg
Doctoral Researcher — *Oct'22-Present*

Indian Institute of Information Technology — Guwahati, India
Master of Technology in Computer Science — *May 2022*
- CGPA: 8.78

Central Institute of Technology — Kokrajhar, India
Bachelor of Technology in Information Technology — *2016-2020*
- CGPA: 9.12

Kendriya Vidyalaya — Barpeta, Assam
AISSCE (Class 12) — *2014-2016*
- Percentage: 84.6

Kendriya Vidyalaya — Barpeta, Assam
AISSE (Class 10) — *2014*
- CGPA: 10
- Merit Certificate

EXPERIENCE

Colab — October 2022-Present
Proximus — *Luxembourg SA*
- SnT partnered with Proximus, the Luxembourg telecom and cloud provider
- Tool Used: Containerd, k3s, runwasi, WebAssembly, Multi-arch

Research Intern — May-July 2021
Indian Institute of Information Technology (IIIT) — *Guwahati, India*
- Secure Multiparty Authentication without trusted third party
- Tool Used: AVISPA

Research Intern — June-July 2019
Indian Institute of Technology (IIT) — *Assam, India*
- Research on Security in Internet of Things by dividing it into three security aspects: Authentication, Authorization, and Access Control

Software Intern — January 2019
Indian Oil Corporation Limited — *Assam, India*
- Application for fetching semester results of an institute

PROJECTS

Cross-architecture support for edge-cloud continuum   Oct 2022 – Present
- Support for WebAssembly in cloud servers(aws bare metals) and embedded devices(aarch and riscv)
- An experimental platform for the use of WebAssembly runtimes in Docker
- Cross architecture implementation and multi-platform containerization
- Implementation: Wasm, Rust, C++

Mobility aware task-offloading in fog assisted networks | *IoT, Cloud, Fog, Edge* July 2021 – May 2022

- Optimal offloading mechanism for mobile end-users in distributed systems
- Performing migration in services with long term analysis(vehicular services)
- Minimize the case of migration while performing offloading until it is an essential requisite
- Implementation: MobFogSim,iFogSim

IoT based automated outdoor lighting system | *IoT, Android, Sensors*   July 2019- February 2020
- Enhance the maintenance of current outdoor lighting systems
- Used Thinkspeak as the cloud server to send sensor's data
- Integrated IR, LDR, Current Sensors to detect presence of obstacle, light
- Detection of faulty lights and real-time display in an android application

Other short-hand projects
- Region of Interest in Benchmarking

- Docker multi-platform support with containerd

- Runwasi in containerization alternative runtimes

- Starup Time, Pull time and Size practices for Container Images

PUBLICATIONS & ACHIEVEMENT

- Kakati, Sangeeta, and Mats Brorsson. "A Cross-Architecture Evaluation of WebAssembly in the Cloud-Edge Continuum." 2024 IEEE 24th International Symposium on Cluster, Cloud and Internet Computing (CCGrid). IEEE, 2024.

- Kakati, Sangeeta, and Mats Brorsson. "Webassembly beyond the web: A review for the edge-cloud continuum." 2023 3rd International Conference on Intelligent Technologies (CONIT). IEEE, 2023.

- S. Kakati, M. Alam, R. Matam, F. A. Barbhuiya and M. Mukherjee, "Mobility-aware Task Offloading in Fog-Assisted Networks," GLOBECOM 2022 - 2022 IEEE Global Communications Conference, Rio de Janeiro, Brazil, 2022, pp. 2897-2902, doi: 10.1109/GLOBECOM48099.2022.10000851.

- Kakati, S., Ray, K., & Deka, R. (2022, June). Cloud and Fog Computing based Industrial IoT Production Management. In 2022 2nd International Conference on Intelligent Technologies (CONIT) (pp. 1-5). IEEE.

- Kakati, S., Chouhan, D., Nag, A., & Panja, S. (2022). Survey on Recent Malware Detection Techniques for IoT. In Pattern Recognition and Data Analysis with Applications (pp. 647-659). Springer, Singapore.

- Kakati, S., & Deka, R. (2022, June). Computational and Adaptive Offloading in Edge/Fog based IoT environments. In 2022 2nd International Conference on Intelligent Technologies (CONIT) (pp. 1-6). IEEE.

- Kakati, S., Mazumdar, N., & Nag, A. (2022). Green Cloud Computing for IoT Based Smart Applications. In Green Mobile Cloud Computing (pp. 201-212). Springer, Cham.

- Presenter, Wasm research day 2023, Google, 33 Erika-Mann-Strasse, Munich Germany

- Certificate of merit for securing 10 CGPA in All India Secondary School Examination(AISSE)

- Top 20 Poster presenters, SnT, DSSE Luxembourg