

# SAVITHA VISWANADH KANDALA

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## EDUCATION

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**Ph.D in Computer Science,**  
*National University of Singapore (NUS)* Fall 2024 intake  
Advisor: Dr. Ambuj Varshney

**B.Tech. and M.S. by Research in Electronics and Communication Engineering,**  
*International Institute of Information Technology, Hyderabad (IIIT-H)* 2019-2024  
CGPA: 9.01/10.0  
Advisor: Dr. Sachin Chaudhari

## RESEARCH EXPERIENCE

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**National University of Singapore** Aug 2024 - Present  
Graduate Researcher

- Developing a framework for training custom, smaller language models (SLMs) optimized for custom user data.
- Trained 30-120M SLMs on curated datasets, performing at par Phi 3 and Llama 3 on specific IoT usecases.
- Created custom datasets of 10B tokens consisting web, sensor and coding data for training smaller models.
- 2000+ GPU hours of training and fine-tuning SLMs for IoT data analysis.

**National University of Singapore** Jan 2024 - Jun 2024  
Visiting Scholar

- Benchmarked performance of LLMs (Phi, Gemma, and Llama) on various single-board computers.
- Analyzed the capabilities of fine-tuned LLMs for wireless sensing and sensor datasheet interpretation.
- Explored distributed inference of the Llama model across multiple single-board computers.

**Signal Processing and Communications Research Centre, IIIT-H** Dec 2020 - Jan 2024  
Undergraduate Researcher

- Developed a low-cost remote labs solution - **RLabs** with 5+ hardware experiments.
- Collaborated with 6 professors, led a team of 5 research students and 15 interns.
- Agastya (NGO) has utilised the platform to educate over 300 rural Indian students.
- Previously, performed a security analysis on a large-scale **IoT-based air pollution monitoring deployment**.

## PUBLICATIONS

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- **K. S. Viswanadh** et al., submitted to ACM Eurosys 2025
- *“A Framework for Training and Deploying Foundational Language Models for Embedded Sensing”*  
**K. S. Viswanadh** et al., accepted at ACM MobiCom S3 Workshop 2024
- *“Engineering Affordable and Scalable Remote Labs using IoT-based Retrofitting”*  
**K. S. Viswanadh** et al., submitted to IEEE Access
- *“CV and IoT-based Remote Triggered Labs: Use Case of Conservation of Mechanical Energy”*  
**K. S. Viswanadh** et al., IEEE FiCloud 2022
- *“Using Miniature Setups and Partial Streams for Scalable Remote Labs”*  
Animesh Das, **K. S. Viswanadh** et al., IEEE FiCloud 2023
- *“Security Analysis of Large Scale IoT Network for Pollution Monitoring in Urban India”*  
G. V. Ihita, **K. S. Viswanadh** et al., IEEE WF-IoT 2021

## POSTERS AND PATENTS

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- *“POSTER: Your Data, Your Model: A Framework for Training and Deploying Foundational Language Models for Embedded Devices”*  
K. S. Viswanadh et al., accepted at ACM MobiCom 2024
- *“POSTER: Simplifying the Networking of Wireless Embedded Systems using a Large Language Model”*  
P Medaranga\*, D Shah\*, K. S. Viswanadh\* et al., ACM SIGCOMM 2024
- *“System and method for implementing an experiment remotely and determining an output using a computer vision model”*, US Patent App. 18/241,852, 2024
- *“Refraction Detection Rod”*, Indian Design Patent App. 389763-001, 2023

## OTHER EXPERIENCES

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**Walmart Global Tech India** May 2023 - July 2023  
Software Developer Intern

- Built a RetinaNet-based retail object detector using Vision Transformer and FAISS, for identifying retail items.
- 30+ objects were successfully recognised from single images with  $\geq 95\%$  accuracy.

<b>Teaching Assistant</b> for Electronics Workshop	IIT-H, Spring 2023
<b>Teaching Assistant</b> for Embedded Systems Workshop	IIT-H, Monsoon 2022
<b>Teaching Assistant</b> for Value Education	IIT-H, Spring 2022
<b>Teaching Assistant</b> for Communications and Controls in IoT	IIT-H, Monsoon 2021
<b>Teaching Assistant</b> for Statistical Methods in AI (selected)	IIT-H, Monsoon 2023

## ACHIEVEMENTS

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- ACM Mobicom 2024 Travel Grant
- NUS PhD Research Scholarship Awardee - 2024
- TIH-IoT CHANAKYA Fellow '2022-2023
- Institute's Best All-Rounder Award - 2023 (IIT-H)
- Dean's (2019-23) & Research List (2021-22) (IIT-H)
- Best Poster Award at **IIT-H's R&D Showcase 2022**
- Solved **'IBM Ponder This'** - July, Aug, Sept 2023; May, July 2022 (First Indian to solve in May 2022)

## ACTIVITIES

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- Head at Electronics and Robotics Club, IIT-H and NSS chapter of IIT-H
- Coordinator at Student Placement Committee, IIT-H
- Secretary at Mess Committee, IIT-H
- Volunteer at Asha Kiran, an organisation for educating under-privileged students
- Open-source contributions: [Tensorflow](#), [GSConnect](#), [ESP8266\\_deauther](#), [w64devkit](#)

## SKILLS

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<b>Programming</b>	C/C++ , Python, Bash, Matlab, Java, HTML, JavaScript, P4, Verilog
<b>Others</b>	Linux, Git, Slurm, Docker, $\LaTeX$ , Wireshark, Embedded Boards