Manit Baser

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I am a **PhD candidate** in **Electrical and Computer Engineering** at **NUS**, specializing in Knowledge Editing, Machine Unlearning, and AI Alignment & Explainable AI for large language models. Previously, I have worked on UAV networks, IoT systems and computer vision. I graduated with B.E. in Electrical and Electronics Engineering from BITS Pilani, India. I've had the privilege of working at **Microsoft** and **Flipkart** as a software engineer.

Education

National University of Singapore, Singapore — **Jan 2024 – Present**
PhD Candidate, Electrical and Computer Engineering — *CGPA: 4.42/5.0*

Birla Institute of Technology and Science, Pilani, India — **2017 – 2021**
Bachelor of Engineering, Electrical and Electronics Engineering — *CGPA: 8.39/10.0*

Technical Skills & Tools

Languages: Python, C++, Java, F#.
AI/ML Frameworks: PyTorch, TensorFlow, Hugging Face Transformers, Scikit-learn, Sanic.
Systems & Tools: Docker, Azure, Git, AsyncAPI, Service Bus, REST APIs.

Work Experience

Part-Time

National University of Singapore — **Aug 2024 – Present**
Teaching Assistant – Electical and Computer Engineering

Fall 2025
– EE4204 Computer Networks
– EE4211 Data Science for the Internet of Things

Spring 2025
– EE4204 Computer Networks
– EE5311 Differentiable and Probabilistic Computing
– EE5021 Cloud based Services for Internet of Things

Fall 2024
– EE4204 Computer Networks
– EE4211 Data Science for the Internet of Things

Full-Time

National University of Singapore — **Aug 2023 – Jan 2024**
Research Assistant – Electical and Computer Engineering

– Developed the MEC-Hopper framework for efficient edge service provisioning using UAVs.
– Work got published in 2024 IEEE 100th Vehicular Technology Conference (VTC2024-Fall). [Link to publication]

Microsoft **June 2022 – Aug 2023**

Software Development Engineer - Azure Specialized

– Designed a service-bus architecture to decouple AVS SDDC (Software-Defined Data Center) microservices.

– Implemented Greenfield migration of existing SDDCs to Azure Fleet without disruption to existing business processes.

Flipkart **June 2021 – June 2022**

Software Development Engineer - Automated Speech Recognition Pipeline

– Designed and developed the ASR pipeline for managing highly scalable & low latency voice search & translations.

– Implemented asynchronous support for ASR pipeline using Sanic, Beanstalk & ZMQ, reducing latency by 12%.

Draup **July 2020 – Dec 2020**

Software Development Intern - Talent Platform

– Developed various features for the Talent platform using Django.

– Optimized the existing APIs and reduced the DB hit frequency to enhance data retrieval.

Sun Mobility **May 2019 – Aug 2019**

Software Development Intern - SmartLine Team

– Designed an anomaly detection model to identify trip manipulation by cab drivers using handcrafted features.

– Developed a metrics dashboard integrated with Power BI for battery performance metrics.

Hackathons & Projects

Global Challenge Runner-Up | Microsoft Global Hackathon **October 2022**

- Implemented tooling to generate Azure Service Bus definition based on AsyncAPI specification.
- Secured second position in the "Hack for Microsoft Cloud" track, with over 12,000 contestants and won a prize of $2000.
- *Tools/Languages used:* AsyncAPI, F#.

National 2nd Runner-Up | AB InBev's Maverick 2.0 Botathon **May 2021**

- Developed an IVR chatbot with integrated TTS & STT capabilities and multi-lingual support.
- Secured third position in the Grand Finale, with more than 500 teams, and won cash price Rs 30,000.
- *Tools/Languages used:* Python, Rasa 2.0, Docker.
  [Link to certificate] [Link to Project]

National Finalists | AB InBev's Maverick 2.0 Hackathon **May 2021**

- Developed a cross-sell/up-sell recommender system for higher revenue generation.
- *Tools/Languages used:* Python, Flask, HTML, Flask.
  [Link to certificate] [Link to Project]

National Finalist | Flipkart GRiD 2020 **November 2020**

- Designed an algorithm to extract the primary speaker's voice from noisy soundtracks.
- Competing against 25,000 participants, secured an pre-placement interview at Flipkart.
- *Tools/Languages used:* Python, PyTorch, Gaussian Mixture Models.
  [Link to achievement]

The Wolfram Award | COVID19 Hack Challenge | Wolfram Research **June 2020**

- Developed Covifight, a three-tier contact tracing solution to counter COVID-19 spread.
- Won a one-year subscription to Wolfram Alpha Pro worth $375.
  [Link to achievement] [Link to Project] [Link to Concept Video]

Global Runner-Up | #EUvsVirus | European Commission **April 2020**

- Developed Covifight, a three-tier contact tracing solution to counter COVID-19 spread.
- Secured second position in the Real-time Communication & Prevention track, with over 9,000 participants. The META Group awarded us with £1000.
  [Link to Achievement] [Link to Project] [Link to Concept Video]

Service

- Program Committee for 2026 Association for the Advancement of Artificial Intelligence (AAAI 2026).

Research Works

Under Review

[1] Manit Baser, Dinil Mon Divakaran, Mohan Gurusamy. *"ThinkEval: Practical Evaluation of Knowledge Preservation and Consistency in LLM Editing with Thought-based Knowledge Graphs."* arXiv preprint arXiv:2506.01386 (2025).

[2] Yash Sinha, Manit Baser, Murari Mandal, Dinil Mon Divakaran, Mohan Kankanhalli. *"Step-by-Step Reasoning Attack: Revealing 'Erased' Knowledge in Large Language Models."* arXiv preprint arXiv:2506.17279 (2025).

[3] Divya D. Kulkarni, Manit Baser, Mohan Gurusamy. *"ARCANE: Adversarial Resilience and Adaptive Network Slicing for UAV-based MEC"*.

In Progress

[1] Manit Baser, Dinil Mon Divakaran, Mohan Gurusamy. *"Where did that Fact come from? XAI for Model Editing in LLMs."* In Progress.

[2] Manit Baser, Dinil Mon Divakaran, Mohan Gurusamy. *"Cumulative Alignment Drift Attack via Model Editing in LLMs"*. In Progress.

[3] Divya D. Kulkarni, Manit Baser, Mohan Gurusamy. *"Defending XAI-Guided Adversarial Attacks on DRL in UAV-Enabled MEC"*. In Progress.

Published

[1] Divya D. Kulkarni, Manit Baser, Mohan Gurusamy. *"MEC-Hopper: DRL-Based Adaptive Multi-Hop Service Provisioning in UAV-Assisted MEC."* 2024 IEEE 100th Vehicular Technology Conference (VTC2024-Fall). IEEE, 2024.

[2] Gaurang Bansal, Manit Baser, Vinay Chamola. *"Three-Tier Indirect Tracing Model for Enhancing Epidemic Surveillance."* IEEE Internet of Things Magazine 7.5 (2024): 98-102.

[3] Tapasvi Bhatt, Manit Baser, Abhishek Tyagi, Eddie Yin Kwee Ng. *"CryoMove: Cold chain real-time management of vaccine delivery using PCM and deep learning."* Applied Thermal Engineering 255 (2024): 123962.

[4] Manit Baser, Miloni Mittal, and Devesh Samaiya. *"Real time foreground segmentation for video sequences with dynamic background."* 2020 IEEE 17th India Council International Conference (INDICON). IEEE, 2020.

[5] Aditya Mithal, Manit Baser, Dhiraj Sangwan. *"Automatic Threat Detection in Baggage Security Imagery using Deep Learning Models."* 2020 IEEE 15th International Conference on Industrial and Information Systems (ICIIS). IEEE, 2020.