

# Sagar Gubbi

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🌐 [www.sagargv.com](http://www.sagargv.com)  
[www.github.com/s-gv](https://www.github.com/s-gv)

## Technical Interests

Inclusive Language Technology for Reaching Global Users

## Education

- 2015 – 2021  
January March  
**Ph.D. Electrical and Communication Engineering,**  
*Indian Institute Of Science, Bangalore.*  
GPA 8/8
- 2011 – 2013  
August July  
**M.E. Electrical and Communication Engineering,**  
*Indian Institute Of Science, Bangalore.*  
GPA 7.5/8 (Rank 1)
- 2007 – 2011  
September June  
**B.E. Electronics and Communication Engineering,**  
*Sri Jayachamarajendra College of Engineering, Mysore, India.*  
GPA 9.8/10 (Rank 1)

## Employment

- 2021 – now  
August  
**Postdoctoral Researcher,**  
*Google Research India, Bangalore.*  
My research focus was on multilingual, multimodal models with the aim of building inclusive and responsible language technologies for the next billion users. I worked on methods to synthesize locale-specific adversarial queries using LLM pipelines for automated red teaming of GenAI models on cold-start languages and locales. I also worked on UI grounded instruction following for helping novice internet users get things done on the phone by transforming FAQ pages to step-by-step demonstrations overlaid on the UI.
- 2021 – 2021  
April August  
**Consultant,**  
*ARTPark, Bangalore.*  
I was involved in setting up a simulation framework for training robot controllers using reinforcement learning. I also contributed to our entry to the AVATAR X-Prize robot telepresence competition by reducing video streaming latency.
- 2013 – 2014  
August December  
**Technical Associate,**  
*Robert Bosch Centre for Cyber-Physical Systems, Bangalore.*  
I was involved in the design of an ambulatory electrocardiograph for neonatal monitoring using an embedded bluetooth low energy platform. I also built an Android app that visualizes the ECG signal and implemented an adaptive filter that reduced power-line noise by 24 dB.

## Publications

- S. Gubbi, P. Talukdar, and S. Narayanan, “**UGIF-Dataset: A New Dataset for Cross-lingual, Cross-modal Sequential actions on the UI,**” *Annual Conference of the North American Chapter of the Association for Computational Linguistics*, 2024 (under review).
- S. Gubbi, R. Upadrashta, and B. Amrutur, “**Translating Natural Language Instructions to Computer Programs for Robot Manipulation,**” *IEEE International Conference on Intelligent Robots and Systems*, 2021.

- S. Gubbi, A. Biswas, R. Upadrashta, V. Srinivasan, P. Talukdar, and B. Amrutur, **"Spatial Reasoning from Natural Language Instructions for Robot Manipulation,"** *IEEE International Conference on Robotics and Automation*, 2021.
- S. Gubbi, R. Upadrashta, S. Kolathaya, and B. Amrutur, **"Multi-Instance Aware Localization for End-to-End Imitation Learning,"** *IEEE International Conference on Intelligent Robots and Systems*, 2020.
- S. Gubbi, R. Upadrashta, S. Kolathaya, and B. Amrutur, **"Teaching Robots Novel Objects by Pointing at Them,"** *IEEE International Conference on Robot and Human Interactive Communication*, 2020.
- S. Tirumala, S. Gubbi, K. Paigwar, A. Sagi, A. Joglekar, S. Bhatnagar, A. Ghosal, B. Amrutur, and S. Kolathaya, **"Learning Stable Manoeuvres in Quadruped Robots from Expert Demonstrations,"** *IEEE International Conference on Robot and Human Interactive Communication*, 2020.
- S. Gubbi\*, S. Kolathaya\*, and B. Amrutur, **"Imitation Learning for High Precision Peg-in-Hole Tasks,"** *IEEE International Conference on Control, Automation and Robotics*, 2020.
- S. Gubbi and B. Amrutur, **"One-Shot Object Localization Using Learnt Visual Cues via Siamese Networks,"** *IEEE International Conference on Intelligent Robots and Systems*, 2019.
- S. Gubbi and B. Amrutur, **"Scene text detection for augmented reality: character bigram approach to reduce false positive rate,"** *CSI Transactions on ICT*, 2018.
- S. Gubbi, A. Gupta and C. S. Seelamantula, **"How much can a Gaussian smoother denoise?,"** *Proceedings of the Tenth Indian Conference on Computer Vision, Graphics and Image Processing*, 2016.
- S. Gubbi and B. Amrutur, **"Adaptive Pulse Width Control and Sampling for Low Power Pulse Oximetry,"** *IEEE Transactions on Biomedical Circuits and Systems*, 2015.
- S. Gubbi and B. Amrutur, **"All Digital Energy Sensing for Minimum Energy Tracking,"** *IEEE Transactions on VLSI Systems*, 2015.
- H. Rao, D. Saxena, S. Kumar, S. Gubbi, B. Amrutur, P. Mony, P. Thankchan, K. Shankar, S. Rao and S. R. Bhat, **"Low power remote neonatal temperature monitoring device,"** *BIODEVICES, 7th International Conference on Biomedical Electronics and Systems*, 2014.

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## Skills

- ML LLM pipelines in Python, annotation UI
- Web Webapps in Python (Django)
- Mobile Android libraries and apps in Java
- Gaming Indie games in C

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## Awards and Academic Honors

- IBM Watson Student Showcase competition, 2015 (my project on predicting if a StackOverflow question is fact/opinion based was among the top 5 cognitive apps submitted to the competition).
- Visveswaraya PhD fellowship, 2015-2020 (awarded by MeitY, Government of India to PhD students in the areas of Electronics System Design and IT enabled services).
- Indian Institute Of Science Alumni Medal for academic achievement, 2013 (awarded to the first rank holder in the M.E. Microelectronics stream).

- Winner of the Cadence Design Contest, 2013 (my design was placed first among 133 entries from 45 academic institutions across India).
- Ministry of Human Resource Development Graduate research scholarship, 2011-2013.
- B.S. Keshav Kishan Memorial Endowment Medal for academic achievement, 2011 (awarded to the first rank holder in the B.E. Electronics and Communications stream).
- All India Rank 3 in GATE 2011 (Graduate Aptitude Test for Engineering is taken by over 100,000 engineering graduates in India to get into graduate schools).
- Rank 2 in K-CET 2007 (Karnataka Common Entrance Test is taken by over 40,000 high school students in the state of Karnataka to enter professional undergraduate programs).

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## Selected Press

- **Times Of India** (2015): "IISc researchers devise all-digital circuits." Aparajita Ray, *Times Of India*, May 18, 2015.
- **Indian Express** (2015): "Running out of smartphone battery? A new digital circuit could fix all of that." Amitabh Sinha, *Indian Express*, June 7, 2015.
- **Education Times** (2015): "The digital sous chef." Rahat Bano, *Education Times*, Jan 19, 2015.

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## References

Available upon request.