

EDUCATION

Cornell University	<i>Ithaca, NY</i>	Aug 2022 – May 2024 (ongoing)
Master of Science in Computer Science (Thesis Track) GPA: 4.0 / 4.0		
• Graduate courses: Topics in Computation Sustainability, Advanced Topics in ML		
Indian Institute of Technology Bombay	<i>Mumbai, India</i>	Aug 2017 - May 2021
• Bachelor of Technology in Computer Science & Engineering w/ Honors, Minor in Artificial Intelligence & Data Science		
• GPA: 9.68 / 10, Honors GPA: 10 / 10, Minor GPA: 9.4 / 10		

WORK EXPERIENCE

Software Engineer, Samsung Electronics	<i>Suwon, South Korea</i>	Sep 2021 – Aug 2022
• Key role in developing high-performance, low-latency physical layer for 5G wireless communication as a member of Physical Uplink Shared Channel team, focusing on core-cycle and cache bottleneck optimization.		
• Utilized Intel® Intrinsic (AVX-512) for efficient parallel processing of data		
• Reduced bottlenecks in uplink signal processing pipeline to achieve upto 20% speedup		
Software Engineer Intern, Samsung Electronics	<i>remote from India</i>	Jun 2020 – July 2020
• Built an automated network load testing framework using Locust & Kubernetes to evaluate performance of Samsung's in-production load balancing services		
Summer Research Intern, TU Braunschweig	<i>Braunschweig, Germany</i>	May 2019 - July 2019
• Built WeLineation , an application utilizing Expectation Maximization for sclera segmentation from crowd-sourced data.		

PUBLICATIONS

- **Improving low resource code-switched ASR using augmented code-switched TTS** - Y. Sharma, B. Abraham, K. Taneja, P. Jyothi [INTERSPEECH 2020]
- **WeLineation: crowdsourcing delineations for reliable ground truth estimation** - S. Goel¹, Y. Sharma¹, M.L. Jauer, T.M. Deserno [SPIE Medical Imaging 2020]

TEACHING ASSISTANTSHIPS

CS2770: Excursions in Computational Sustainability	<i>Cornell University, Ithaca</i>	Spring 2023
CS3410: Computer System Organization & Programming	<i>Cornell University, Ithaca</i>	Fall 2022
CS251: Software System Lab	<i>IIT Bombay, India</i>	Fall 2019, Fall 2020
MA105: Calculus	<i>IIT Bombay, India</i>	Fall 2018

RESEARCH EXPERIENCE

MS Thesis Research - Prof. Sanjiban Choudhury	<i>Cornell University</i>	Spring 2023 –
Leveraging large language models and eventually multimodal models for inverse task planning		
Undergraduate Thesis - Prof. Preethi Jyothi	<i>IIT Bombay & Microsoft</i>	Dec 2019 – Jun 2020 & Aug 2020 – Jun 2021
Improving code-switched Automatic Speech Recognition²		
Focused on improving performance of end-to-end ASR models on Gujarati-English speech by conditioning transformer on language of the text. A Temporal Loss is used to train language specific parameters and add explainability		
Improving Low Resource Code-switched ASR using Augmented Code-switched TTS²		
Used E2E Automatic Speech Recognition models trained on Hindi and English monolingual data and code-switched Text to Speech (TTS) to improve performance in low-resource settings. Ideated a new loss function to target underlying distributions of languages in the data. Used augmentation and encoder freezing to avoid over-fitting on synthetic artefacts		
R&D Project - Prof. Amitabha Sanyal	<i>IIT Bombay</i>	Fall 2020
Implemented an automated debugger for GCC plugin designed to detect bugs in C program translation. Improved program analysis by creating custom Intermediate Representation		

LANGUAGES AND SOFTWARES

C/C++, python, bash, JavaScript/TypeScript, Haskell, SQL, PyTorch, TensorFlow, AVX, Git, Perforce, Linux, Docker, MATLAB

RESEARCH PROJECTS

Few-shot action recognition on egocentric data; Prof. Kilian Weinberger;	Fall 2022 (ongoing)	Cornell University
Learning systems for cocktail party problem on bird calls; Prof. Carla Gomes;	Fall 2022 (ongoing)	Cornell University
Low Resource Morphological Inflection; Evolutionary RL on maze solving; VQA with dynamic neuralnet		IIT Bombay

¹Equal contribution

²Work done as part of collaboration between **Microsoft India Development Center** and **Indian Institute of Technology Bombay**