

Ankita Pasad

PH.D. CANDIDATE, TTIC



INTERESTS

Speech foundation models, spoken language understanding, multi-modal speech modeling.

EDUCATION

Toyota Technological Institute at Chicago (TTIC), Illinois, USA

MS, Computer Science

2019

Ph.D. Candidate, Computer Science

Aug 2024 (expected)

Advisor: Prof. Karen Livescu

Indian Institute of Technology Bombay (IITB), Mumbai, India

Dual Degree, Bachelor & Master of Technology, Electrical Engineering

2017

Specialization: Communication and Signal Processing

M.Tech Advisor: Prof. Preeti Rao

INDUSTRY EXPERIENCE

Research Intern at ASAPP

Summer 2021

Supervisors: Kyu Han, Suwon Shon, Felix Wu, Prof. Karen Livescu

- Spoken language understanding (SLU) tasks and the SLUE benchmark [1].

Research Intern at Google Research

Fall 2019

Offered returning research internship

Supervisors: Ariel Gordon, Tsung-Yi Lin, Anelia Angelova

- Semi-supervised semantic segmentation by leveraging unlabelled videos.

Design Engineer at Texas Instruments (TI)

Summer 2015

Awarded a pre-placement offer to rejoin TI

Supervisor: Ashwin Ramachandran

- Signal processing to reduce electromagnetic interference in ethernet transceiver.

PUBLICATIONS

What Do Self-Supervised Speech Models Know About Words?

A. Pasad, C-M. Chien, S. Settle, K. Livescu

TACL 2024

SLUE-PERB: A Spoken Language Understanding Performance Benchmark and Toolkit

S. Arora, R. Sharma, **A. Pasad**, H. Dhamyal, W. Chen, S. Shon, H-Y. Lee, K. Livescu, S. Watanabe

Workshop on Speech Foundation Models and their Performance Benchmarks, ASRU 2023

SLUE Phase-2: A Benchmark Suite of Diverse Spoken Language Understanding Tasks

S. Shon, S. Arora*, C. Lin*, **A. Pasad***, F. Wu, R. Sharma, W. Wu, H. Lee, K. Livescu, S. Watanabe

ACL 2023

Comparative Layer-Wise Analysis of Self-Supervised Speech Models

A. Pasad, B. Shi, K. Livescu

ICASSP 2023

Hidden State Variability of Pre-trained Language Models Can Guide Computation Reduction for Transfer Learning

S. Xie, J. Qiu, **A. Pasad**, L. Du, Q. Qu, H. Mei

Findings of EMNLP 2022

On the Use of External Data for Spoken Named Entity Recognition

A. Pasad, F. Wu, S. Shon, K. Livescu, K. Han

NAACL 2022

SLUE: New Benchmark Tasks for Spoken Language Understanding Evaluation on Natural Speech

S. Shon, **A. Pasad**, F. Wu, P. Brusco, Y. Artzi, K. Livescu, K. J. Han

ICASSP 2021

Layer-Wise Analysis of a Self-Supervised Speech Representation Model

A. Pasad, J-C. Chou, K. Livescu

ASRU 2021

Improving Semantic Segmentation through Spatio-Temporal Consistency Learned from Videos

A. Pasad, A. Gordon, T-Y. Li, A. Angelova

Workshop on Learning from Unlabeled Videos, CVPR 2020

On the Contributions of Visual and Textual Supervision in Low-Resource Semantic Speech Retrieval

A. Pasad, B. Shi, H. Kamper, K. Livescu

Interspeech 2019

Voice Activity Detection for Children's Read Speech Recognition in Noisy Conditions

A. Pasad, K. Sabu, P. Rao

National Conference on Communications, 2017

THESES

Voice Activity Detection for Children's Read Speech Assessment in Noisy Conditions

M.Tech Thesis, 2017 [2]

TECHNICAL SKILLS

Proficient: Python, PyTorch, Fairseq

Intermediate: Bash, Hugging Face, ESPNET, S3PRL

LANGUAGES

Proficient: English, Hindi, Kutchi

Intermediate: Marathi, Gujarati

ACHIEVEMENTS

Thesis research selected for ICASSP Rising Star in Signal Processing Workshop

2023

Best Poster Award, TTIC student workshop

2021

Institute Academic Award, rank 2nd (out of 70), Electrical Engineering, IITB

2016

All India rank of 328 amongst 1.1 million candidates in IIT-JEE

2012

Amongst national top 1% students in National Physics Olympiad

2012

Amongst national top 1% students in National Astronomy Olympiad (Sr.)

2012

Amongst top 35 students nationwide for National Astronomy Olympiad (Jr.)

2009

SERVICE

Reviewer: ACL, EMNLP, ICASSP, Interspeech, SLT

- Awarded "Outstanding Reviewer Recognition" for ICASSP 2023

Organizer, Speech and Language Discussion Meet-ups, TTIC

2023-24

Co-organizer, Women at TTIC

2019-22

Peer-mentor for first-year Ph.D. students, TTIC

2019-20

Panelist, Young Female Researchers in Speech Science & Technology, Interspeech

2018

Department Academic Mentor, IITB

2016-17

Volunteer, Abhyasika, an initiative to educate underprivileged kids

2014-15

Co-organizer, Institute Electronics Club, IITB

2014-15

- Awarded "Institute Organization Special Mention" (0.25% of 10,000)

TEACHING ASSISTANCE

Speech Technologies | Prof. Karen Livescu, TTIC

Spring 2020

- Awarded "Outstanding TA" recognition

Speech Processing | Prof. Preeti Rao, IITB

Spring 2017

Advanced Signal Processing | Prof. Rajbabu Velmurugan, IITB

Fall 2016

RELEVANT COURSEWORK

Statistical Machine Learning, Deep Learning, Unsupervised Learning, Speech Technologies, Natural Language Processing, Advanced Natural Language Processing, Adaptive Signal Processing, Image Processing, Computer Vision