

# Yash Jain

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## EDUCATION

### Georgia Institute of Technology

Atlanta, USA

*Masters in Computer Science (Thesis advisor: Prof. Zolt Kira)*

2021 – 2023

**Cum. GPA:** 4.0/ 4.0

### Indian Institute of Technology Bombay

Mumbai, India

*Bachelors of Technology in Computer Science (Thesis advisor: Prof. Soumen Chakrabarti)*

2017 – 2021

**Cum. GPA:** 8.91/ 10.0

## RECENT PUBLICATIONS

- [1] Y. Jain, H. Behl, Z. Kira, and V. Vineet. Damex: Dataset-aware mixture-of-experts for visual understanding of mixture-of-datasets. *Accepted at Neurips, 2023* [🔗](#).
- [2] Y. Jain, C. I. Tang, C. Min, F. Kawsar, and A. Mathur. Collossl: Collaborative self-supervised learning for human activity recognition. *Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies*, 6(1):1–28, 2022 [🔗](#).

## RESEARCH EXPERIENCE

### Applied Scientist

Summer 2023 & Fall 2023

*Guide: Michael Bentley*

*Microsoft, US*

- Built the Word to PPT conversion scenario for Office Co-pilot using GPT-4, set to release in Nov 2023.

### Analysis of MoE on individual, sparsely-annotated and multi-dataset OD [\[thesis\]](#)

Spring 2023

*Guide: Vibhav Vineet, Zolt Kira*

*Microsoft Research & Georgia Tech*

- Proposed MoE as an alternate ensembling strategy for mixing datasets in Object-Detection task.
- Created synthetic sparsely-annotated datasets and empirically showed MoE as an effective solution.

### Design Difference Captioning for Visually-Challenged [\[paper\]](#)

Summer 2022

*Guide: Vibhav Vineet, Michael Bentley*

*Microsoft, US*

*U.S. Patent applied*

- Developed a novel pipeline of image difference captioning task for PowerPoint slide data by generating a synthetic dataset in a self-supervised manner, benefiting 4.4 million users in the US.

### Multi-Stage Multi-Modal Pre-Training for Automated Speech Recognition

Fall 2022

*Guide: Shalini Ghosh*

*Amazon Alexa AI, US*

*Under Submission*

*LREC-Coling, 2024*

- Led the development and implementation of a novel ML algorithm that improves speech recognition accuracy by 38.45% compared to existing state-of-the-art, using videos as training data.

### ColloSSL: Collaborative Self-Supervised Learning for HAR [\[paper\]](#) [\[poster\]](#)

Summer 2021

*Guide: Akhil Mathur*

*Nokia Bell Labs, UK*

- Developed a collaborative ML algorithm that can utilize data from multiple wearable devices and improve activity detection by 7.9% F-1 score, potentially improving fitness and wellness monitoring of smartwatches

## AWARDS

- Undergraduate Research Award** for outstanding Bachelors Thesis at IITB 2021
- Recipient of **Dhirubai Ambani Foundation scholarship** for pursuing Masters studies at Georgia Tech 2021
- All India Rank 29 in JEE-Advanced** out of 220,000 shortlisted candidates from 1.2 million students 2017
- Gold Medalist** in theory and **Silver Medalist** in practicals representing India at 11<sup>th</sup> International Junior Science Olympiad held in Mendoza, Argentina 2014

## TECHNICAL SKILLS

**Strong:** Python (with Tensorflow and PyTorch), C/C++, Bash, MATLAB

**Familiar:** Java, SQL (Postgres), JavaScript, HTML/CSS, Android, Arduino

**Tools:** Streamlit, Git, LaTeX