

# Shrinivas Ramasubramanian

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## EDUCATION

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- **Carnegie Mellon University** Pittsburgh, PA  
*MS in Robotics; GPA: 4.17/4.0* Aug. 2026 (*expected*)
- **Indian Institute of Technology Bombay** Mumbai, India  
*B.Tech in Electrical Engineering; GPA: 7.42/10.0* Aug. 2020

## PUBLICATIONS

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- **Improving Model-Based Reinforcement Learning by Converging to Flatter Minima.**  
Shrinivas Ramasubramanian, Ben Freed, Alexandre Capone, Jeff Schneider.  
*NeurIPS 2025 (Main Conference)*. [PDF]
- **Selective Mixup Fine-Tuning for Optimizing Non-Decomposable Metrics.**  
Shrinivas Ramasubramanian<sup>†</sup>, Harsh Rangwani<sup>†</sup>, Sho Takemori<sup>†</sup>, Kunal Samanta, Kato Takashi, Yuhei Umeda, Venkatesh Babu Radhakrishnan.  
*ICLR 2024, Spotlight (Main Conference)*. [PDF]
- **Cost Sensitive Self-Training For Optimizing Non-Decomposable Objectives.**  
Harsh Rangwani<sup>†</sup>, Shrinivas Ramasubramanian<sup>†</sup>, Sho Takemori<sup>†</sup>, Kato Takashi, Yuhei Umeda, Venkatesh Babu Radhakrishnan.  
*NeurIPS 2022 (Main Conference)*. [PDF]
- **Cost-sensitive learning for long-tailed temporal action segmentation.**  
Zhanzhong Pang, Fadime Sener, Shrinivas Ramasubramanian, Angela Yao.  
*BMVC 2024 (Main Conference)*. [PDF]
- **Long-Tail Temporal Action Segmentation via Group-wise Temporal Logit Adjustment.**  
Zhanzhong Pang, Fadime Sener, Shrinivas Ramasubramanian, Angela Yao.  
*ECCV 2024 (Main Conference)*. [PDF]

<sup>†</sup> Equal contribution

## PATENTS

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- **Information processing apparatus and machine learning method.**  
Harsh Rangwani, Shrinivas Ramasubramanian, Sho Takemori, Kato Takashi, Yuhei Umeda, Venkatesh Babu Radhakrishnan.  
US Patent: US20230376846A1.
- **Machine Learning method and information processing apparatus.**  
Shrinivas Ramasubramanian, Harsh Rangwani, Kunal Samantha, Sho Takemori, Yuhei Umeda, Venkatesh Babu Radhakrishnan.  
US Patent: US20250037023A1.

## ACADEMIC SERVICE

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- **Teaching Assistant DS 265o, IISc:** Primary TA for the course Deep-Learning for Computer Vision DS-265o at IISc Fall'22 , a master's-level course.
- **Reviewer:** NeurIPS 2023, ICML 2023, ICLR 2024, AAAI 2024, NeurIPS 2025.

## WORK EXPERIENCE

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- **Research Engineer** Bangalore, India  
*Fujitsu Research India Pvt. Ltd.* May 2023 – Present
  - **Robust person re-identification:** Worked on fine-tuning CLIP for robust person re-identification under distribution shifts.
  - **Temporal graph learning for fraud detection:** Developed consistent sub-sampling methods for large (84M+ nodes) heterogeneous temporal graphs of financial data to train and evaluate PoCs for fraud detection.
  - **Non-decomposable objectives:** Continued work on optimizing non-decomposable and non-differentiable objectives.
- **Research Intern (Prof. Angela Yao)** Remote / Bangalore, India  
*CVML Group, National University of Singapore* Mar. 2022 – May 2023
  - **Long-tailed action segmentation:** Applied expertise in long-tail learning to enhance action segmentation in videos, collaborating with Prof. Angela Yao's group.
  - **Loss design and architectures:** Adapted established architectures and designed novel loss functions, significantly improving metrics for imbalanced action segmentation; work published at **ECCV 2024** and **BMVC 2024**.
- **Project Assistant (Prof. Venkatesh Babu)** Bangalore, India  
*Video Analytics Lab (VAL), IISc Bangalore* Oct. 2021 – May 2023
  - **NeurIPS 2022 publication:** Worked on optimizing **linear non-decomposable objectives** such as bias and fairness measures for long-tailed data using **semi-supervised learning**, resulting in a **NeurIPS 2022** publication in collaboration with **Fujitsu Research**.
  - **Teaching Assistant:** Prepared academic material and delivered lectures on **Semi-supervised Learning, Object Detection, and Generative Models** for DS-265.
  - **Mentoring and ICLR Spotlight:** Mentored summer interns and undergraduates and co-authored “**Selective Mixup Fine-Tuning for Optimizing Non-Decomposable Metrics**”, published as an **ICLR 2024 Spotlight**, addressing both non-linear and linear confusion-matrix objectives under semi-supervised and supervised settings.
- **Computer Vision Engineer** Bangalore, India  
*Beltech* Jan. 2021 – Oct. 2021
  - **Automatic License Plate Recognition:** Built and deployed an ALPR pipeline: fine-tuned CRAFT for multi-line plate text, added a Spatial Transformer + LSTM OCR, and template-based correction.
  - **Intersection occupancy and violations:** Fused multi-camera detections with static satellite maps via affine projection to generate intersection occupancy grids and implemented heuristic traffic-violation detection.
  - **Multi-object tracking:** Deployed a YOLOv4 + DeepSort multi-object tracking system and designed track-level heuristics, reaching mAP of 0.71 on held-out intersections.

## ACHIEVEMENTS

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- **NeurIPS 2022 paper invited talk:** Paper “Cost Sensitive Self-Training For Optimizing Non-Decomposable Objectives” presented at the IISc-EECS Research Students Symposium.
- **JEE Advanced:** All-India Rank 156 in **JEE Advanced** among ~150k aspirants; received a scholarship of INR 95k from Vidyamandir Classes (VMC).

## REFERENCES

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### Dr. Venkatesh Babu

Professor, CDS Department, IISc Bangalore  
Website: <http://cds.iisc.ac.in/faculty/venky/>  
Email: [venky@iisc.ac.in](mailto:venky@iisc.ac.in)

### Dr. Angela Yao

Assistant Professor, School of Computing, National University of Singapore  
Website: <https://www.comp.nus.edu.sg/~ayao/>  
Email: [ayao@comp.nus.edu.sg](mailto:ayao@comp.nus.edu.sg)

### Dr. Yuhei Umeda

Senior Project Director, Fujitsu AI Lab, Japan  
Profile: [LinkedIn](#)  
Email: [umeda.yuhei@fujitsu.com](mailto:umeda.yuhei@fujitsu.com)

### Dr. Jeff Schneider

Professor, Carnegie Mellon University  
Website: <https://www.cs.cmu.edu/~schneide/>  
Email: [jeff4@andrew.cmu.edu](mailto:jeff4@andrew.cmu.edu)