


## EXPERIENCE

### Computer Vision Researcher

#### Robert Bosch

 May 2019 - Aug 2021  Bangalore, India

autonomous driving multi-sensor perception

- Lead the research and development of pipeline for multi-sensor (LiDAR, RADAR and camera) perception.
- Resulting annotation and perception tool internally adopted for data annotation pipeline.

### Research Intern

#### Robert Bosch


 Jun 2018 - Oct 2018  Hyderabad, India

computer vision autonomous driving

- Research on efficient semantic segmentation techniques for autonomous driving.
- Proposed a novel ensemble-based distillation method applied to compact segmentation networks like ENet.

### Research Fellow

#### Center for Innovation, LVPEI

 Aug 2015 - Jan 2016  Hyderabad, India

healthcare software development computer vision

- Developed an eye tracking software tool for **Pediatric Perimeter** to quantify the visual field of infants, enabling early detection of visual field issues in clinical environments.

## SKILLS

**DL Frameworks :** Pytorch (2020-present, R&T), Tensorflow (2018-2021, R) R - Research, T - Teaching

**Programming Languages :** Python (2016-present) and C++ (2015-2016)

**Additional skills** git (2016-present), Adobe Illustrator and InDesign (2021-present)

## FEATURED PUBLICATIONS AND PREPRINTS

\* equal first-authorship † equal advising

- Tobia Poppi\*, Tejaswi Kasarla\*, Pascal Mettes, Lorenzo Baraldi, Rita Cucchiara : **Hyperbolic Safety-Aware Vision-Language Models**. CVPR 2025.

**TL;DR :** The paper proposes HySAC, Hyperbolic Safety-Aware CLIP, which models hierarchical safety relations to enable effective retrieval of unsafe content, dynamically redirecting it to safer alternatives for enhanced content moderation.

- Tejaswi Kasarla, Max van Spengler, Pascal Mettes : **Balanced Hyperbolic Embeddings are Natural Out-of-Distribution Detectors**. Preprint.

**TL;DR :** The paper shows that hyperbolic learning is particularly well suited for OOD detection by using balanced hyperbolic embeddings to capture label hierarchies. The approach involves first learning the hierarchy, then training the model to align input data with these embeddings for better OOD generalization.

## EDUCATION

### Ph.D., Artificial Intelligence

#### University of Amsterdam

 Oct 2021- Sep 2025  Amsterdam, Netherlands

- PhD advisors : **Pascal Mettes** and **Rita Cucchiara**.
- Research focus : Generalization of visual data representations using non-Euclidean embedding spaces (hyperspherical and hyperbolic manifolds), with applications in open-world detection and multimodal models.
- **ELLIS** PhD; collaboration with University of Modena.

### Master of Science, Computer Science

#### IIIT Hyderabad

 Aug 2016- May 2019  Hyderabad, India


- Courses on AI including Image Processing, ML, CV, RL, Parallel Computing and Convex Optimization.
- MS advisors : **C.V. Jawahar** and **Vineeth N. Balasubramanian**. Thesis on "Efficient Semantic Segmentation", applied to autonomous driving. [link](#)
- Final Grade : 7.17/10

### Bachelor of Technology, Electrical and Electronics Engineering




#### JNTU Hyderabad

 Sep 2011-May 2015  Hyderabad, India

- Final Grade : 84%

- Tejaswi Kasarla, Gertjan J. Burghouts, Max van Spengler, Elise van der Pol, Rita Cucchiara, Pascal Mettes : **Maximum Class Separation as Inductive Bias in One Matrix**. NeurIPS 2022. [Oral - Top 6.8%]  paper  
TL;DR: The paper introduces a closed-form solution to incorporate optimal class separation in deep networks that generalize to long-tailed and open-world settings. This requires disentangling classification and separation in a network - first separating class vectors angularly, then aligning inputs with them.

## CONFERENCE AND WORKSHOP PUBLICATIONS



- Thomas Wiggers, Melika Ayoughi<sup>†</sup>, Tejaswi Kasarla<sup>†</sup>, Paul Groth, Pascal Mettes : **Exemplar-free Continual Representation Learning with Symmetric Distillation**. Preprint.  
**Own contributions** : Advised in ideation, model development and experiment design. Contributed to writing.
- Tejaswi Kasarla, Abhishek Jha, Faye Tervoort, Rita Cucchiara, Pascal Mettes : **Maximally Separated Active Learning**. ECCV 2024 Beyond Euclidean workshop  paper  
**Own contributions** : Proposed application to active learning. Advised in model development and experimental setup. Integrated the existing active learning pipeline implemented by Faye into DeepALPlus toolkit. Lead the writing of the paper.
- Judith Dijk, Gertjan J. Burghouts, Kapil D. Katyal, Bryanna Y. Yeh, Craig T. Knuth, Ella Fokkinga, Tejaswi Kasarla, Pascal Mettes : **Lightweight Uncertainty Quantification with Simplex Semantic Segmentation**. ICRA 2024 workshops.  paper  
**Own contributions** : Advised in experiment design. Contributed to writing.
- Tejaswi Kasarla, G. Nagendar, Guruprasad Hegde, Vineeth N. Balasubramanian, C.V. Jawahar : **Region-Based Active Learning for Efficient Labeling in Semantic Segmentation**. Winter Conference on Applications in Computer Vision (WACV), 2019  paper

I have served as a reviewer for : ML (ICLR 2025, ICLR 2024, NeurIPS 2023), Vision (CVPR 2025, ECCV 2024, ICCV 2023) venues and DEI workshops (WiCV- 2021 onwards, WiML- 2019 onwards)

## TALKS

- Nov 2022 Contributed Talk at the **Women in Machine Learning Workshop** at NeurIPS 2022 on "Maximum Class Separation as Inductive Bias in One Matrix"  Video

## WORKSHOPS AND SESSIONS CO-ORGANIZED

- 2024 *Technical Committee*, Beyond Euclidean Workshop (ECCV 2024 Workshop).
- 2022 *Program co-chair*, Women in Computer Vision (CVPR 2022 Workshop).  Report
- 2021 *Organizer*, Women in Computer Vision Networking Session (ICCV 2021 Socials).
- 2021 *Program co-chair*, Women in Computer Vision (CVPR 2021 Workshop).  Report

## TEACHING AND SUPERVISION

- 2021-23 **Teaching Assistant**; Applied Machine Learning course – University of Amsterdam. Led tutorials, designed and supervised course projects for 200+ students.
- 2025 **Master's Thesis Supervision**; Co-supervising three theses on object centric learning, fine-grained classification of biological data and hyperbolic geometry for GNNs.
- 2024 **Master's Thesis Supervision**; Co-supervised two theses on **hyperbolic image retrieval** and exemplar-free continual learning, latter submitted to ICLR 2025.
- 2023 **Master's Thesis Supervision**; Supervised thesis on **active learning on hypersphere**, published at ECCVW 2024.

## OUTREACH AND INCLUSION

Passionate about supporting diversity in AI research by leading change and mentoring underrepresented groups.

- 2023-now **Board Member**; **Women in Computer Vision (WiCV)**.
- 2022-now **Mentor**; **Inclusive AI Program**, University of Amsterdam.
- 2022 **Mentor**; **WiML Mentorship Program**

## SELECT HONORS AND AWARDS

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- 2024 **ELLIS** PhD Mobility Grants (2024); for research visit at University of Modena with **Rita Cucchiara**.
- 2022 NeurIPS Scholar Award; to cover conference registration and stay for NeurIPS 2022