Ismail Elezi

London, UK | ismail.elezi@gmail.com | Scholar | LinkedIn | Twitter | GitHub | Web

I am a Principal Research Scientist of Computer Vision, leading the multi-modality learning team in Huawei Noah's Ark Lab in London. I worked before in deep metric learning, self- and semi-supervised learning, open-world and long-tail detection, active learning, and generative image models. Currently I am focused on researching new models in multi-modality learning (visual LLMs). I frequently publish in top-tier vision (CVPR, ICCV, ECCV) and ML conferences (NeurIPS, ICML, ICLR, AAAI). ***h-index: 17, citations: 1302.***

Working Experience

Deep Learning Principal Researcher, Huawei — Dec 2024 – Present
IC/manager hybrid role where I am leading a team of 10-12 research scientists and research interns working in multi-modality learning, VLMs and diffusion models. Main target of the team is to build efficient solutions for (V)LLMs, and we target our work at top-tier conferences. Currently very interested in diffusion LLMs. — *London, UK*

Deep Learning Senior Researcher, Huawei — Apr 2023 – Nov 2024
Started as an IC working on 3D computer vision. Promoted to team-lead within 9 months working on LLMs, tinyML and long-tail learning. Was tasked with building a multi-modality learning team. — *London, UK*

Deep Learning Research Visitor, Argo AI — Jun 2022 – Sep 2022
Worked on semi-supervised LiDAR data for object segmentation. Build a 3D masked-autoencoder solution for segmentation based on LiDAR data. — *Munich, Germany*

Alexander von Humboldt Postdoctoral Researcher, TUM — Oct 2020 – Mar 2023
Had my own projects in active learning and metric learning, while also mentored and collaborated with 3 PhD students and a dozen master students. Co-taught 3 different courses, and helped my supervisor in writing the ERC grant. — *Munich, Germany*

Deep Learning Research Intern, NVIDIA — Feb 2020 – Sep 2020
Worked on active learning and semi-supervised learning, resulting in 2 top-tier papers. Furthermore, helped on the technology transfer within the company. — *Santa Clara, USA*

Education

PhD in Deep Learning — Sep 2016 – Jul 2020
Ca' Foscari University of Venice, Venice, Italy — *Distinction*

- Completed PhD under the supervision of Marcello Pelillo and Thilo Stadelmann, working mostly on semi-supervised learning and metric learning. Spent a year as research visitor at TUM, and interned at Nvidia.

Selected Publications

1. Xie, Yang, An, Wu, Zhao, Deng, Ran, Wang, Feng, Miles, **Elezi**, and Deng. Region-based cluster discrimination for visual representation learning. *ICCV25*
2. Wen, Zhao, **Elezi**, Deng, and Qi. Principal components enable a new language of images. *ICCV25*
3. Alexandridis, **Elezi**, Deng, Nguyen, and Luo. Fractal calibration for long-tailed object detection. *CVPR25*
4. Kaul, Ma, **Elezi**, and Deng. From attention to activation: Unravelling the enigmas of large language models. *ICLR25*
5. Miles, Reddy, **Elezi**, and Deng. Velora: Memory efficient training using rank-1 sub-token projections. *NeurIPS24*
6. Reddy*, **Elezi***, and Deng. G3dr: Generative 3d reconstruction in imagenet. *CVPR24*
7. Miles, **Elezi**, and Deng. Vkd: Improving knowledge distillation using orthogonal projections. *CVPR24*

8. Ma, **Elezi**, Deng, Dong, and Xu. Three heads are better than one: Complementary experts for long-tailed semi-supervised learning. *AAAI24*

9. Seidenschwarz, Brasó, Serrano, **Elezi**, and Leal-Taixé. Simple cues lead to a strong multi-object tracker. *CVPR23*

10. **Elezi**, Seidenschwarz, Wagner, Vascon, Torcinovich, Pelillo, and Leal-Taixé. The group loss++: A deeper look into group loss for deep metric learning. *tPAMI23*

11. Kocsis, Sukenik, Brasó, Niessner, Leal-Taixé, and **Elezi**. The unreasonable effectiveness of fully-connected layers for low-data regimes. *NeurIPS22*

12. Fomenko, **Elezi**, Ramanan, Osep, and Leal-Taixé. Learning to discover and detect objects. *NeurIPS22*

13. **Elezi**, Yu, Anandkumar, Leal-Taixé, and Alvarez. Not all labels are equal: Rationalizing the labeling costs for training object detection. *CVPR22*

14. Choi, **Elezi**, Lee, Farabet, and Alvarez. Active learning for deep object detection via probabilistic modeling. *ICCV21*

15. Seidenschwarz, **Elezi**, and Leal-Taixé. Learning intra-batch connections for deep metric learning. *ICML21*

16. **Elezi**, Vascon, Torcinovich, Pelillo, and Leal-Taixé. The group loss for deep metric learning. *ECCV20*

17. Maximov*, **Elezi***, and Leal-Taixé. CIAGAN: conditional identity anonymization generative adversarial networks. *CVPR20*

    * = equal contribution. For the full list see my Google Scholar.

Skills

Programming: Python, PyTorch, TensorFlow, OpenCV, Scikit-learn, Java, Matlab/Octave, C, C#, C++.
Computer: Linux (Debian), Docker, AWS.
Languages: Albanian (native), English (fluent), Italian (intermediate), German (beginner).

Reviewing Duties

Area Chair (Conferences): WACV 2021; NeurIPS 2025
Reviewer (Conferences): CVPR 2020 – 2025; ICCV 2021, 2025; ECCV 2022, 2024; NeurIPS 2021; ICML 2022; ICLR 2024, 2025; IJCAI 2021; BMVC 2019, 2020; ACCV 2020; WACV 2022. Outstanding reviewer (*)
Reviewer (Journals): IJCV, TMLR, Pattern Recognition, CVIU
Session Chair (Conferences): WACV 2021; ICPR 2020

Selected Interns and Thesists Supervised

2025: Ye Mao (Imperial College London); Mohammad Sadil Khan (University of Kaiserslautern); Yura Choi (Imperial College London); Ye-Bin Moon (POSTECH); Xin Wen (University of Hong Kong); Tatiana Gaintseva (Queen Mary University).
2024: Aysim Toker (Technical University of Munich → Huawei); Changrui Chen (University of Warwick → Huawei); Bingchen Zhao (University of Edinburgh); Prannay Kaul (2024) (University of Oxford → Amazon); Yongshuo Zong (University of Edinburgh).
2023: Konstantinos Alexandridis (King's College → Huawei); Roy Miles (Imperial College London → Huawei); Chengcheng Ma (CAS → Kunlun); Yunqi Miao (University of Warwick → Huawei).
PhD TUM 2020-2022: Jenny Seidenschwarz → Oddyssey; Franziska Gerken.
Master TUM 2020-2022: Volodymyr Fomenko → OpenAI; Peter Kocsis → PhD at TUM; Laurin Wagner → myReha; Peter Sukenik → IST Austria; Feliks Hibraj → Snap Inc.