Ismail Elezi

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I am a Principa; 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 models (GANs and diffusion 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). ***h-index: 15, citations: 1075.***

Working Experience

Deep Learning Principal Researcher: Huawei — December 2024 - *London, UK*
Leading a team working in multi-modality learning, VLMs and diffusion models.

Deep Learning Senior Researcher: Huawei — April 2023 - November 2024 *London, UK*
Build and leading a team in multi-modality learning and VLMs.

Deep Learning Research Visitor: Argo AI — June 2022 - September 2022 *Munich, Germany*
Worked on semi-supervised LiDAR data for object segmentation.

Alexander von Humboldt Postdoctoral Researcher: TUM — Oct 2020 - March 2023 *Munich, Germany*
Research, mentored Ph.D. and master students, co-taught several courses.

Deep Learning Research Intern: NVIDIA — Feb. 2020 - Sept. 2020 *Santa Clara, US*
Resulted in papers accepted to CVPR and ICCV.

Education

Ph.D. in Deep Learning — Sep. 2016 – July 2020
Ca' Foscari University of Venice, Venice, Italy — *Grade: Distinction*

- Completed Ph.D. under the supervision of professors Marcello Pelillo and Thilo Stadelmann. Spent a year at TUM.

Selected Publications

1. Kaul, Ma, **Elezi**, and Deng. From attention to activation: Unravelling the enigmas of large language models. *ICLR25*
2. Miles, Reddy, **Elezi**, and Deng. Velora: Memory efficient training using rank-1 sub-token projections. *NeurIPS24*
3. Reddy*, **Elezi***, and Deng. G3dr: Generative 3d reconstruction in imagenet. *CVPR24*
4. Miles, **Elezi**, and Deng. Vkd: Improving knowledge distillation using orthogonal projections. *CVPR24*
5. Ma, **Elezi**, Deng, Dong, and Xu. Three heads are better than one: Complementary experts for long-tailed semi-supervised learning. *AAAI24*
6. Seidenschwarz, Brasó, Serrano, **Elezi**, and Leal-Taixé. Simple cues lead to a strong multi-object tracker. *CVPR23*
7. **Elezi***, Seidenschwarz*, Wagner*, Vascon, Torcinovich, Pelillo, and Leal-Taixé. The group loss++: A deeper look into group loss for deep metric learning. *tPAMI23*
8. Kocsis, Sukenik, Brasó, Niessner, Leal-Taixé, and **Elezi**. The unreasonable effectiveness of fully-connected layers for low-data regimes. *NeurIPS22*
9. Fomenko, **Elezi**, Ramanan, Osep, and Leal-Taixé. Learning to discover and detect objects. *NeurIPS22*
10. **Elezi**, Yu, Anandkumar, Leal-Taixé, and Alvarez. Not all labels are equal: Rationalizing the labeling costs for training object detection. *CVPR22*
11. Choi, **Elezi**, Lee, Farabet, and Alvarez. Active learning for deep object detection via probabilistic modeling. *ICCV21*

12. Seidenschwarz, **Elezi**, and Leal-Taixé. Learning intra-batch connections for deep metric learning. *ICML21*
13. **Elezi**, Vascon, Torcinovich, Pelillo, and Leal-Taixé. The group loss for deep metric learning. *ECCV20*
14. Maximov*, **Elezi***, and Leal-Taixé. CIAGAN: conditional identity anonymization generative adversarial networks. *CVPR20*

    * = equal contribution. For a full list of papers, please check my Google Scholar.

Skills

Programming: Python, PyTorch, Tensorflow, openCV, sklearn, Java, Matlab/Octave, C, C#, C++.
Languages: Albanian (Mother tongue), English (fluent), Italian (intermediate), German (beginner).

Reviewing duties

Area Chair: WACV 2021
Conferences: CVPR 2020, 2021*, 2022, 2023, 2024; ICCV 2021*; ECCV 2022, 2024; NeurIPS 2021; ICML 2022; ICLR 2024; IJCAI 2021; BMVC 2019, 2020; ACCV 2020*; WACV 2022. * = outstanding reviewer
Journals: IJCV, TMLR, Pattern Recognition, CVIU.
Workshops: Applications of Computer Vision and Pattern Recognition to Media Forensics (CVPR affiliated) 2019, 2020, 2021, 2022, 2023, 2024; Deep Vision (CVPR affiliated) 2020; Autonomous Driving (CVPR affiliated) 2021, 2023, 2024.
Session Chair: WACV 2021, ICPR 2020.

Selected Interns and Thesists supervised

Xin Wen (2024) - intern from the University of Hong Kong.
Aysim Toker (2024) - intern from Technical University of Munich.
Tatiana Gaintseva (2024) - intern from Queen Mary University.
Changrui Chen (2024) - intern from University of Warvick $->$ research scientist at Huawei.
Bingchen Zhao (2024) - intern from University of Edinburgh.
Prannay Kaul (2024) - intern from University of Oxford $->$ research scientist at Amazon.
Yongshuo Zong (2024) - intern from University of Edninburgh, paper together in ICML workshop.
Konstantinos Alexandridis (2023) - intern from King's College $->$ research scientist at Huawei.
Roy Miles (2023) - intern from Imperial College, paper together at CVPR $->$ research scientist at Huawei.
Chengcheng Ma (2023) - intern from Chinese Academy of Sciences, paper at AAAI $->$ research scientist at Kunlun.
Yunqi Miao (2023) - intern at Huawei from University of Warvick $->$ research scientist at Huawei.
Jenny Seidenschwarz - masters and Ph.D. student at TUM (2020-2023), papers together at ICML, tPAMI, CVPR.
Franziska Gerken - Ph.D. student at TUM (2020-2023), submission together at eLife.
Volodymyr Fomenko - masters at TUM (2021-2022), paper together at NeurIPS $->$ Technical Staff at OpenAI.
Peter Kocsis - masters at TUM (2021-2022), paper together at NeurIPS $->$ Ph.D. student at TUM.
Laurin Wagner - masters at TUM (2020-2021), paper together at tPAMI $->$ ML Research Engineer at myReha.
Peter Sukenik - masters at TUM (2021), paper together at NeurIPS $->$ Ph.D. student at IST Austriat.
Feliks Hibraj (2020-2021) - intern at TUM $->$ software engineer at Snap Inc.

Teaching Experience

Deep Learning with Pytorch at Datacamp (2019): instructor. Developed during my Ph.D., over 28K students attended the course, before it got retired in December 2023.
Introduction to Deep Learning at TUM (2022): co-instructor. Gave half of the lectures, and was in charge of the exam. Around 1000 students attended the course.
Advanced Computer Vision at TUM (2021 and 2022): co-instructor. Gave several lectures, lead the office hours, and was in charge of the exam. 30 students attended the course.
Computer Vision III: Detection, Segmentation, and Tracking at TUM (2022): co-instructor. Gave several lectures, lead the office hours, and was in charge of the exam. Around 150 students attended the course.
Introduction to Machine Learning at Aralytics: instructor. Designed and gave a course for the company's internal training. 10 employees attended the course.