

EDUCATION

- **The University of Edinburgh** Edinburgh, UK
PhD in Computer Science *Sep 2021 – Mar 2025 (Expected)*
- **Technical University of Munich** Munich, Germany
MSc in Computer Science *Oct 2018 – Dec 2020*
- **Istanbul Technical University** Istanbul, Turkey
BSc in Computer Science *Sep 2013 – Jun 2017*

EXPERIENCE

- **Meta AI** California, USA
Research Scientist Intern *Aug 2023 – Feb 2024*
 - **3D and Generative Learning:** Researched self-supervised learning and 3D generative modeling using diffusion models.
 - **3D Object Reconstruction:** Developed novel methods for 3D object reconstruction and representation learning.
- **The University of Edinburgh** Edinburgh, UK
Postgraduate Researcher *Sep 2021 – Present*
 - **3D Shape and Semantics in ML:** Investigating 3D object reconstruction, generative learning with diffusion models, and self-supervised representation learning.
 - **Monocular Depth Estimation:** Researching depth estimation techniques leveraging self-supervised and generative approaches.
- **TUM Computer Vision Lab** Munich, Germany
Research Assistant *Oct 2018 – Jun 2021*
 - **Holistic Scene Understanding:** Worked on 3D/4D semantic segmentation, instance segmentation, and multi-object tracking using LiDAR data.
 - **Unsupervised Shape Analysis:** Developed self-supervised learning approaches for 3D shape analysis using the functional map framework.

SELECTED PUBLICATIONS

- D. Duolikun, **M. Aygun**, C. Li, H Bilen, and O. Mac Aodha. “DepthCues: Evaluating Monocular Depth Perception in Large Vision Models.” **CVPR 25’**
- **M. Aygun**, O. Mac Aodha, “SAOR: Single-view Articulated Object Reconstruction”, **CVPR 24’**
- **M. Aygun**, P. Dhar, Z. Yan, O. Mac Aodha, and R. Ranjan, “Enhancing 2D Representation Learning with a 3D Prior ”, **CVPR 24’ - Workshop on Representation Learning with Very Limited Images’**
- **M. Aygun**, O. Mac Aodha, “Demystifying Unsupervised Semantic Correspondence Estimation”, **ECCV 22’**
- **M. Aygun**, A. Osep, M. Weber, M. Maximov, C. Stachniss, J. Behley, L. Lael-Taixe, “4D Panoptic Lidar Segmentation”, **CVPR 21’**
- **M. Aygun**, Y. Aytar, H. K. Ekenel, “Exploiting Convolution Filter Patterns for Transfer Learning”, **ICCV 17’ Workshop on Transfer Learning - (Honourable Mention Award)**

SKILLS

- Technical: Python, PyTorch (3D), C/C++, OpenCV, NumPy, Matlab, Linux, Git
- Methodologies: Generative modeling (Diffusion Models), self-supervised learning (Dinov2), 3D reconstruction (NeRF, Gaussian Splatting), shape analysis

AWARDS & ACTIVITIES

- Organizer for the 12th Fine-Grained Visual Categorization Workshop at CVPR 2025
- Reviewer for TPAMI, CVPR, ICCV, ECCV
- Tutoring for Applied Machine Learning Course at the University of Edinburgh. 2021-2024
- DAAD Scholarships for Master Studies in Germany, 2018-2020

REFERENCES

- **Dr. Oisín Mac Aodha**, The University of Edinburgh (oisin.macaodha@ed.ac.uk)
- **Prof. Laura Leal-Taixe**, Nvidia (llealtaixe@nvidia.com)