






Luca Morreale


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Education

- 2019 – 2024  **Ph.D., University College London** Computer science
Thesis title: *Neural Surfaces*
Advisor: Niloy J. Mitra.
Machine Learning for Computer Graphics
- 2015 – 2017  **M.Sc., Politecnico di Milano** in Computer Engineering.
Computer Vision and Robotics perception
- 2012 – 2015  **B.Sc., Politecnico di Milano** in Computer Engineering.
Software engineering

Experience

- 2024 -  **Samsung Research**, Full time
Research on Generative Models
- 2023  **Meta Reality Labs**, Research intern
Led research on scene geometry manipulation through natural language
Transformers and LLM
- 2021  **Adobe Research**, Research intern
Led research on CNN-based shape representation
Focused on shape compression, deformation, and editing
Published paper at CVPR 2022
- 2019  **Università della Svizzera Italiana**, Research Assistant
Led research on geometric deep learning for point clouds
Specialized in point cloud classification and correspondence
- 2018 – 2019  **Politecnico di Milano**, Research Assistant
Led research on real-time 3D reconstruction semantic simplification
Deep learning

Research Publications

- **Neural Semantic Surface Maps**
L. Morreale, N. Aigerman, V. G. Kim, and N. J. Mitra
Computer Graphics Forum Wiley Online Library 2024.
- **Euclid: Interactive Editing of Scene Geometry with Natural Language**
L. Morreale, C. Xie, A. Avetisyan, *et al.*
Under review at Siggraph Asia 2024.
- **Neural convolutional surfaces**
L. Morreale, N. Aigerman, P. Guerrero, V. G. Kim, and N. J. Mitra
Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition 2022.
- **Neural surface maps**
L. Morreale, N. Aigerman, V. G. Kim, and N. J. Mitra
Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition 2021.
- **Dense 3D visual mapping via semantic simplification**
L. Morreale, A. Romanoni, and M. Matteucci


International Conference on Robotics and Automation (ICRA) IEEE 2019.

- **Predicting the next best view for 3d mesh refinement**
L. Morreale, A. Romanoni, and M. Matteucci
Intelligent Autonomous Systems 15: Proceedings of the 15th International Conference IAS-15 Springer 2019.
- **Learning and mining player motion profiles in physically interactive robogames**
E. L. Oliveira, D. Orrù, L. Morreale, T. P. Nascimento, and A. Bonarini
Future Internet MDPI 2018.

Patents

- **Neural network based 3D object surface mapping**
V. Kim, N. Aigerman, N. J. Mitra, and L. Morreale US Patent 11,869,132 Jan. 2024.




Awards

- 2022  **Rabin Ezra scholarship**
The Rabin Ezra Scholarship Trust has been set up to make available bursaries for post-graduate students specializing in computer graphics.




Service

-  Reviewer for CVPR, NeurIPS, ICML, Computer & Graphics, SIGGRAPH Asia

Teaching

- 2022  **Acquisition and Processing of 3D Geometry**, University College London
- 2020 – 2022  **Machine Learning for Visual Computing**, University College London
- 2018 – 2019  **Computer Science 101**, Politecnico di Milano

Skills

- Languages  English, Italian.
- Coding  Python, Pytorch, C, C++, \LaTeX
- Misc  Docker, Blender, Distributed training