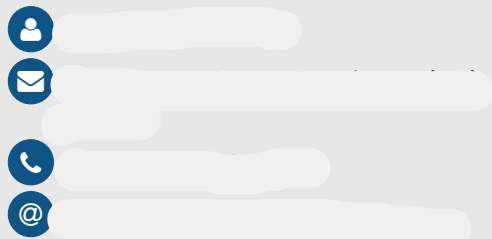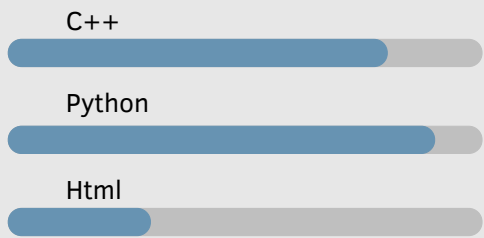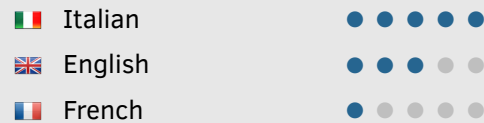# Riccardo Spezialetti

3D Computer Vision Scientist

About Me

I am Computer Vision Scientist who, for the last 5 years, focused his studies on shape processing, geometry and deep learning.

I enjoy looking for simple and intuitive solutions to complex problems. If you don't see me sitting at my desk, you'll find me running out in the park or behind my reflex taking pictures.

Coding languages

C++

Python

Html

Languages

🇮🇹	Italian	● ● ● ● ●
🇬🇧	English	● ● ● ● ○
🇫🇷	French	● ● ○ ○ ○

Working Experience

currently — **Research Scientist at Eyecan** — *eyecan.ai*
I'm currently enrolled as a research scientist at Eyecan, a spinoff from the University of Bologna founded in 2020. The main goal of our company is to generate annotated data for AI purposes using robots and, thus, without the need for Human Annotations.

2020-2022 — **Postdoctoral Researcher at COMPUTER VISION LAB** — *University of Bologna*
I worked as a postdoctoral research fellow at the Computer Vision Lab of the university of Bologna under the supervision of Professor Luigi Di Stefano and Professor Samuele Salti. My research topics focused on Deep Learning solutions for 3D Computer Vision problems such as 3D shape generation from images, surface registration and implicit functions.

2020-2022 — **Tutor Machine Learning for Computer Vision** — *University of Bologna*
I worked as a teaching tutor for the course held by professor Prof. Samuele Salti.

2020-2022 — **Tutor Computer Vision and Image Processing** — *University of Bologna*
I worked as a teaching tutor for the course held by professor Prof. Luigi Di Stefano.

2019-2020 — **Visiting Researcher Scientist at Google contracted by Randstad** — *Randstad*
I worked as a Visiting Researcher at Google Zurich contracted by Ranstad.

2016 – 2019 — **Ph.D. Student in Comptuer Science and Engineering** — *University of Bologna*
I was a Ph.D. student at the Computer Vision Laboratory of the University of Bologna, under the supervision of Prof. Luigi Di Stefano. In my Ph.D thesis I propose a end-to-end features learning pipeline, based on deep learning techniques, to address Surface Matching on point cloud data.

2015 – 2016 — **C++ Developer** — *Datalogic*
I worked in the 3D Computer Vision R&D division under the supervision of Federico Tombari and Marco Bottazzi.
The areas of interest were keypoint extraction on low cost sensor data, non-rigid registration of objects, and digitization of the human body.

Education

Study

2016 – 2019	**Ph. D. in COMPUTER SCIENCE AND ENGINEERING**	University of Bologna

Thesis: Learning to understand the world in 3D.
Supervisor: Luigi Di Stefano.

2012 – 2015	**Master Degree In Computer Engineering**	University of Bologna

Final Rank: 110/110 with honors.
Master Thesis: Keypoints detection in 3D Point Cloud with Machine Learning approach.
Supervisor: Luigi Di Stefano.
Co-supervisors: Samuele Salti and Federico Tombari.

2007 – 2011	**Bachelor Degree In Computer Engineering**	University of Bologna

Final Rank: 91/110 with honors.
Master Thesis: Designing cloud services in Open Stack.
Supervisor: Antonio Corradi.
Co-supervisor: Luca Foschini.

Publications

2023   **ReLight My NeRF: A Dataset for Novel View Synthesis and Relighting of Real World Objects**
*Toschi M., De Matteo R., **Spezialetti R.**, De Gregorio D., Di Stefano L., Salti S.*
Conference on Computer Vision and Pattern Recognition (CVPR)

2022   **Self-Distillation for Unsupervised 3D Domain Adaptation**
*De Luigi L., Cardace A., **Spezialetti R.**, Ramirez P. Z., Salti S., Di Stefano L.*
International Conference on Learning Representations (ICLR)

2022   **Self-Distillation for Unsupervised 3D Domain Adaptation**
*Cardace A., **Spezialetti R.**, Ramirez P. Z., Salti S., Di Stefano L.*
Winter Conference Of Computer Vision (WACV)

2021   **Unsupervised Learning of Local Equivariant Descriptors for Point Clouds**
*Marcon M., **Spezialetti R.**, Salti S., Silva L., Di Stefano L.*
IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)

2021   **RefRec: Pseudo-labels Refinement via Shape Reconstruction for Unsupervised 3D Domain Adaptation**
*Cardace A., **Spezialetti R.**, Ramirez P. Z., Salti S., Di Stefano L.*
In International Conference on 3D Vision (3DV)

2021   **Go with the Flows: Mixtures of Normalizing Flows for Point Cloud Generation and Reconstruction**
*Postels J., Liu M., **Spezialetti R.**, Van Gool L., Tombari, F.*
In International Conference on 3D Vision (3DV)

2020   **A Divide et Impera Approach for 3D Shape Reconstruction from Multiple Views**
***Spezialetti R.**, Tan D. J., Tonioni A., Tateno K., Tombari F.*
In International Conference on 3D Vision (3DV)

2020   **Learning to Orient Surfaces by Self-supervised Spherical CNNs**
***Spezialetti R.**, Stella F., Marcon M., Silva L., Salti S., Di Stefano L.*
Advances in Neural Information Processing Systems (NeurIPS)

2020   **3D Local descriptors—from handcrafted to learned**
***Spezialetti R.**, Salti S., Di Stefano L., Tombari F.*
3D Imaging, Analysis and Applications

2020   **Learning to understand the world in 3D**
R. Spezialetti
Ph.D. Thesis

2019   **Learning an Effective Equivariant 3D Descriptor Without Supervision**
***Spezialetti R.**, Salti S., Di Stefano L.*
International Conference on Computer Vision (ICCV)

2019   **GFrames: Gradient-Based Local Reference Frame for 3D Shape Matching**
*Melzi S., **Spezialetti R.**, Tombari F., Bronstein M. M., Di Stefano L., Rodolá E.*
Conference on Computer Vision and Pattern Recognition (CVPR)

2019   **Performance Evaluation of Learned 3D Features**
***Spezialetti R.**, Salti S., Di Stefano L.*
International Conference on Image Analysis and Processing (ICIAP)

2018   **Learning to Detect Good 3D Keypoints**
*Tonioni A., Salti S., Tombari F., **Spezialetti R.**, Di Stefano L.*
International Journal of Computer Vision (IJCV)

2015   **Learning a descriptor-specific 3D keypoint detector**
*Salti S., Tombari F., **Spezialetti R.**, Di Stefano L.*
International Conference on Computer Vision (ICCV)