

FILIPPO GRAZIOLI

Heidelberg, Germany

✉ sendtofilippo@gmail.com

🌐 [linkedin.com/in/flpgrz](https://www.linkedin.com/in/flpgrz)

🐙 github.com/flpgrz

🌐 flpgrz.github.io

🎓 [Google Scholar](#)

Experience

Cruise (General Motors)

April 2023 – Present

Senior Machine Learning Engineer II - Computer Vision

Munich, Germany

- Implementation, research and deployment of 3D object detection models for self-driving cars.
- Deep learning and LiDAR/camera/radar sensor fusion.
- Scene and vehicle understanding with Transformer-based temporal models.

NEC Laboratories Europe

July 2020 – March 2023

Research Engineer - Biomedical AI

Heidelberg, Germany

- Machine learning for precision immuno-oncology, personalized cancer vaccines and drug discovery.
- Prediction of protein binding with Transformers, Graph Neural Networks and 1D CNNs.
- Multimodal variational models for disease prediction.
- Probabilistic simulations and mixed integer programming (MIP) for vaccine optimization.

Bosch Engineering

July 2018 – July 2020

Software Engineer - Camera Perception

Abstatt, Germany

- Embedded C++ perception algorithms for the Bosch Multi Purpose Camera for ADAS and autonomous driving.
- Road sign recognition.
- ROS prototype development.

Ferrari

October 2017 – June 2018

Visiting Researcher - Computer Vision

Maranello, Italy

- Computer vision for driver monitoring with depth and RGB images.
- Depth estimation with GANs from monocular RGB images.
- Multimodal face verification from RGB and depth.

RWTH Aachen University

June 2016 – September 2017

Graduate Research Assistant - Software Engineering (May 2017 – September 2017)

Aachen, Germany

- Model-based software engineering (UML/SysML) for automotive research.

Student Research Assistant - Institute of Automotive Engineering (IKA) (June 2016 – April 2017)

- Eye-tracking and driver behaviour understanding for autonomous driving.
- Master thesis: *Development of a Driver State Detector for Autonomous Vehicles.*

Education

RWTH Aachen University

September 2015 – October 2016

Erasmus+ EU International Exchange Program

Aachen, Germany

Polytechnic University of Turin

October 2014 – March 2017

Master of Science (cum laude) in Automotive Engineering

Turin, Italy

University of Ferrara

September 2011 – October 2014

Bachelor of Science (cum laude) in Mechanical Engineering

Ferrara, Italy

Technical Skills

Computer vision: Multimodal object detection, camera/radar/LiDAR fusion, segmentation, depth estimation

Machine learning: Deep learning, geometric deep learning, graph convolutional networks, variational inference, information bottleneck, multimodal learning, deep sets, transformers, out-of-distribution detection, generative models

Relevant libraries: PyTorch, PyTorch Geometric, DGL, Tensorflow/Keras, Transformers, Scikit-learn, ROS, OpenCV

Languages: Python, C, C++

Miscellaneous: GCP, Docker, Git, Scrum, Jira, GitLab, Continuous Integration, Test-driver development

Selected Publications

NeoAgDT: Optimization of personal neoantigen vaccine composition by digital twin simulation of a cancer cell population, A Moesch, **F Grazioli**, P Machart, B Malone, Bioinformatics, 2024

Are you a robot? Detecting Autonomous Vehicles from Behavior Analysis, F Maresca, **F Grazioli**, A Albanese, V Sciancalepore, G Negri, X Costa-Perez, IEEE International Conference on Robotics and Automation (ICRA), 2024

Disentangled Wasserstein Autoencoder for T-Cell Receptor Engineering, T Li, H Guo, **F Grazioli**, M Gerstein, MR Min, Neural Information Processing Systems (NeurIPS), 2023

Attentive Variational Information Bottleneck for TCR-peptide Interaction Prediction, **F Grazioli**, P Machart, A Moesch, K Li, LV Castorina, N Pfeifer, MR Min, Bioinformatics, 2022

Microbiome-based disease prediction with multimodal variational information bottlenecks, **F Grazioli**, R Siarheyev, I Alqassem, A Henschel, G Pileggi, A Meiser, PLOS Computational Biology, 2022

Face Verification from Depth using Privileged Information, G Borghi, S Pini, **F Grazioli**, R Vezzani, R Cucchiara, The British Machine Vision Conference (BMVC), 2018

Learning to Generate Facial Depth Maps, S Pini, **F Grazioli**, G Borghi, R Vezzani, R Cucchiara, International Conference on 3D Vision (3DV), 2018

Languages

Italian: Mother tongue **English:** Fluent **German:** Fluent **Spanish:** Basic

Interests

Favourite movie directors: David Lynch, Martin Scorsese

Favourite writers: Jorge Luis Borges, Gabriel García Márquez

Hobbies: Photography, swimming, playing guitar, cooking, gardening