

# Alessandro Sanvito

SOFTWARE AND AI ENGINEER

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## Experience

### Optiver

Amsterdam, Netherlands

SOFTWARE ENGINEER

August 2023 - Current

- Developing and optimizing high-performance, low-latency C++ and Python systems for mission-critical financial applications.
- Collaborating with multidisciplinary teams to implement scalable, efficient software solutions in latency-sensitive environments.
- Gaining expertise in algorithm design and parallel computing, relevant for real-time AI-driven applications.

### Mercedes-Benz (AI-SEE Project)

Stuttgart, Germany

AI RESEARCH INTERN AND MASTER THESIS STUDENT

May 2022 - June 2023

- Conducted cutting-edge research on 3D human avatar modeling from monocular video data in diverse real-world environments.
- Designed and implemented generative neural models, including NeRFs and Diffusion Models, to improve computer vision performance in adverse weather conditions.
- Collaborated with a cross-functional R&D team to refine innovative ideas, resulting in a publication at ICCV (International Conference on Computer Vision).
- Leveraged skills in deep learning, 3D modeling, and generative AI to push the boundaries of digital character creation and visualization.

## Education

### KTH Royal Institute of Technology

Stockholm, Sweden

MSc. IN ICT INNOVATION, DATA SCIENCE

Sept. 2020 - May 2023

- Final grade: A - Excellent
- Implemented from scratch a diverse range of neural network architectures in NumPy, including MLPs, Hopfield Networks, and Deep Belief Networks.
- Reproduced data mining-related papers in Python and Java.

### Polytechnic University of Milan

Milan, Italy

MSc. IN COMPUTER SCIENCE AND ENGINEERING

Sept. 2020 - Jul. 2023

- Final grade: 110/110 cum laude
- Developed a winning ML solution on the Twitter dataset for the international RecSys Challenge 2021 with the university team under the supervision of prof. Paolo Cremonesi with Dask, Catboost, and XGBoost.
- Built a recommender system for a book catalogue with NumPy, SciPy, and Pandas.

### Polytechnic University of Milan

Milan, Italy

BSc. IN ENGINEERING OF COMPUTING SYSTEMS

Sept. 2017 - Jul. 2020

- Final grade: 109/110
- Implemented a cardboard game in Java, performing extensive testing with JUnit and Mockito.
- Created a performance oriented graph manipulation tool in C.

## Publications

2023	<b>ScatterNeRF: Seeing Through Fog with Physically-Based Inverse Neural Renderings,</b> Ramazzina Andrea, Bijelic Mario, Walz Stefanie, Sanvito Alessandro, Scheuble Dominik, Heide Felix	ICCV 2023
2022	<b>United We Stand, Divided We Fall: Leveraging Ensembles of Recommenders to Compete with Budget Constrained Resources,</b> Maldini Pietro, Sanvito Alessandro, Surricchio Mattia	ACM recsys'22
2021	<b>Lightweight and Scalable Model for Tweet Engagements Predictions in a Resource-constrained Environment,</b> Carminati Luca, Lodigiani Giacomo, Maldini Pietro, Meta Samuele, Metaj Stiven, Pisa Arcangelo, Sanvito Alessandro, Surricchio Mattia, Maurera Fernando B. Pérez, Bernardis Cesare, Ferrari Dacrema Maurizio	ACM recsys'21

## Skills

<b>Programming</b>	Python, C++, SQL, Java, C, LaTeX
<b>Machine Learning</b>	Pytorch, Tensorflow, MLlib, scikit-learn, Optuna, Catboost, XGBoost, NumPy, SciPy
<b>Data processing</b>	Pandas, Dask, Spark, Spark Streaming, GraphX, MySQL
<b>Visualization</b>	Seaborn, Matplotlib, Plotly