

# Alessandro Sanvito

SOFTWARE AND AI ENGINEER

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## Experience

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### Optiver

SOFTWARE ENGINEER

Amsterdam, Netherlands

August 2023 - Current

- Working in the Data Driven Algorithmic Position Taking team, developing and maintaining data pipelines and trading strategies.
- Building and optimizing data processing systems using Python, Spark, Polars, and DuckDB, with a focus on efficient data storage and retrieval from PostgreSQL and Delta tables.
- Collaborating closely with quantitative researchers and traders to implement and optimize systematic trading strategies, with direct impact on desk PnL.

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

AI RESEARCH INTERN AND MASTER THESIS STUDENT

Stuttgart, Germany

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

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### KTH Royal Institute of Technology

MSc. IN ICT INNOVATION, DATA SCIENCE

Stockholm, Sweden

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

MSC. IN COMPUTER SCIENCE AND ENGINEERING

Milan, Italy

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

BSc. IN ENGINEERING OF COMPUTING SYSTEMS

Milan, Italy

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

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2023

### ScatterNeRF: Seeing Through Fog with Physically-Based Inverse Neural Renderings,

Ramazzina Andrea, Bijelic Mario, Walz Stefanie, Sanvito Alessandro, Scheuble Dominik, Heide Felix

ICCV 2023

2022

### United We Stand, Divided We Fall: Leveraging Ensembles of Recommenders to Compete with

Budget Constrained Resources, Maldini Pietro, Sanvito Alessandro, Surricchio Mattia

ACM recsys'22

2021

### Lightweight and Scalable Model for Tweet Engagements Predictions in a

Resource-constrained Environment, Carminati Luca, Lodigiani Giacomo, Maldini Pietro, Meta

ACM recsys'21

Samuele, Metaj Stiven, Pisa Arcangelo, Sanvito Alessandro, Surricchio Mattia, Maurera Fernando B.

Peréz, Bernardis Cesare, Ferrari Dacrema Maurizio

## Skills

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**Programming**

Python, SQL, Java, C++, C, LaTeX

**Data Processing**

Spark, Polars, DuckDB, PostgreSQL, Delta Lake, Pandas, NumPy

**Machine Learning**

Deep Learning (PyTorch, TensorFlow), Computer Vision, Generative AI (NeRFs, Diffusion Models), scikit-learn, MLLib, Catboost, XGBoost

**Tools & Technologies**

Git, Docker, Linux, CI/CD, pytest