

# Alessandro Sanvito

SOFTWARE AND AI ENGINEER

Gijsbrecht van Aemstelstraat 23, 1091 TB Amsterdam, Netherlands

☎ (+39) 331 703 7925 | ✉ alessandro.sanvito@gmail.com | 🏠 alexdruso.github.io/ | 📺 Alexdruso | 🌐 alessandro-sanvito | 🎓 Alessandro Sanvito

## 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

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|------|--|---------------|
| 2023 | <b>ScatterNeRF: Seeing Through Fog with Physically-Based Inverse Neural Renderings,</b><br>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

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**Programming** Python, C++, SQL, Java, C, LaTeX

**Machine Learning** Pytorch, Tensorflow, MLlib, scikit-learn, Optuna, Catboost, XGBoost, NumPy, SciPy

**Data processing** Pandas, Dask, Spark, Spark Streaming, GraphX, MySQL

**Visualization** Seaborn, Matplotlib, Plotly