

Alessandro Sanvito

SOFTWARE AND AI ENGINEER

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Experience

Optiver

Amsterdam, Netherlands

SOFTWARE ENGINEER

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)

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 | 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 Samuele, Metaj Stiven, Pisa Arcangelo, Sanvito Alessandro, Surricchio Mattia, Maurera Fernando B. Pérez, Bernardis Cesare, Ferrari Dacrema Maurizio | ACM recsys'21 |

Skills

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