

Alvise Sembenico

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WORK EXPERIENCE

Klue **Sep. 2021 – 2024**

Senior Machine Learning Engineer

Amsterdam, NL - Vancouver, BC

- Online data clustering for 1 million data points daily with domain-specific fine-tuned LLM, f-1 score of 0.85.
- CUDA level optimization for LLM; decrease training time of 42%.
- End-to-end training of a recommendation system for key events detection with a Hit Rate of 0.8.
- Constructed a robust data stream and ML pipeline to process over 1 million data points daily.
- Led and mentored the Machine Learning research and group.

Intrical AI **Mar. 2020 – Sep. 2021**

Founder & AI Lead

Amsterdam, NL

- Successfully secured €50,000 in venture capital, which enabled us to double the team size.
- M&A (mergers and acquisitions) transaction prediction combining historical data and textual information.
- Supervised research project published in a workshop for unstructured documents data extraction with state-of-the-art results and an increase of 10% from previous results.
- Created an ML pipeline for real-time data mining and transaction forecast with 5 different ML models.

Qualcomm **Sep. 2019 – Aug. 2020**

Machine Learning Research Intern

Amsterdam, NL

- Enhanced state-of-the-art Deep Learning object trackers by developing a mathematical framework that reduces model decay during online learning, improving long-term video tracking performance. Improvement of 3 AUC points.

University of Amsterdam **Feb. 2020 – Dec. 2020**

Teacher Assistant

Amsterdam, NL

- Collaborated with professors to develop and execute MSc courses in Artificial Intelligence, focusing on Machine Learning, Deep Learning and Information Retrieval.

EDUCATION

University of Amsterdam **Sep. 2023 - Apr 2025**

Master, Mathematics

Amsterdam, NL

- Main track in Analysis and Dynamical systems. Secondary track in Stochastic analysis.
- Thesis: Deep FBSDE: deep learning to solve path-dependent forward-backward SDE with optimal control applications..
- Main courses: PDE, Computational Finance, Measure theoretic probability, Stochastic integration, Asymptotic statistics, Numerics for SDE, Dynamical systems, Optimal Transport. 136/120 EC required.
- Participated in the National Mathematics Congress.
- Teaching assistant in the Bachelor of Mathematics.

University of Amsterdam **Sep. 2018 - Aug. 2020**

Master, Artificial Intelligence

Amsterdam, NL

- Deeply research-driven programme, with a focus on mathematical foundations. I worked on my thesis together with Quva Lab on "Multifaceted Memory Augmentation in Discriminative Object Tracking". Grade: 3.5/4
- Participated in the NAO team: robotic football competition.

University of Trento **Sep. 2015 - Jul. 2018**

Bachelor, Computer Science

Trento, IT

- Final Grade: 100

SKILLS & INTERESTS

- *Competitive programming: (top 1% LC), Second place mathematics Archimedes games 2014*
- **Skills:** *Programming languages: Python, Java, C++, C, Rust, Cuda. Machine learning frameworks: Pytorch, Tensorflow*
- **Personal projects:** *Physics particle engine in C++ ([Github](#)), IMC trading comp ([Github](#)), Math puzzles ([Github](#)).*