

Davide Belli

SENIOR DEEP LEARNING RESEARCH ENGINEER

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Education

University of Amsterdam

Amsterdam, NL

MSC IN ARTIFICIAL INTELLIGENCE

Sep. 2017 - Sep. 2019

- Graduated **Cum Laude**, GPA 8.8/10 (A+)
- Main Courses: Machine Learning, Computer Vision, NLP, Deep Learning, Reinforcement Learning, Information Retrieval
- Skills and technologies: Python (NumPy, Matplotlib, PyTorch, scikit-learn), MATLAB, Git, LaTeX

University of Trento

Trento, IT

BSc IN COMPUTER SCIENCE

Sep. 2014 - Jul. 2017

- Graduated **Cum Laude**, GPA 110/110
- Main Courses: Calculus, Linear Algebra, Probability and Statistics, Logics, Algorithms and Data Structures, Functional and Object Programming, Web and Mobile Programming, OS, Networks, Databases, Compilers, Software Engineering
- Skills and technologies: C++, Java, Android, Node.js, Git, HTML/CSS, XML

Work Experience

Qualcomm AI Research

Amsterdam, NL

SENIOR RESEARCH ENGINEER, DEEP LEARNING

Nov. 2019 - Present

- Designed and implemented novel DL methods for Perception (visual and RF domains), Model Efficiency, and Agentic AI (LLMs).
- Integrated solutions in products released to customers (Samsung Galaxy, Google Pixel) and internal departments.
- Improved the performance of a biometric classifier from 90% to 99% AUC on challenging real-world data.
- Reduced the positioning error of a GNSS localisation system by 50% in noisy urban canyon scenarios
- Improved inference efficiency in recent LLMs (Phi 3, Llama 3, Mistral), decreasing memory footprint by 45% and increasing throughput by 40%.
- Topics: Domain generalization, Personalization, Transfer learning, Multi-modal learning, Kalman Filters, LLM efficiency, Dynamic Sparsity.
- Skills and technologies: Python (PyTorch, NumPy, Matplotlib, Pandas, Hydra), Bash, Git, Docker.

University of Amsterdam

Amsterdam, NL

GRADUATE TEACHING ASSISTANT

Oct. 2018 - Jun. 2019

- Graduate Teaching Assistant for the core courses Machine Learning 1, Deep Learning and Information Retrieval in the MSc AI at UvA.
- Held lab sessions, designed and corrected exams, homework and lab assignments.

Publications

- H Gorp*, D Belli*, A Jalalirad, B Major. *Neural Augmented Kalman Filters for Road Network assisted GNSS positioning*, **ICML 2025 ML4Wireless workshop**.
- M Federici*, D Belli*, M van Baalen, A Jalalirad, A Skliar, B Major, M Nagel P Whatmough. *Efficient LLM Inference using Dynamic Input Pruning and Cache-Aware Masking*, **MLSys 2025**
- A Jalalirad, D Belli, B Major, S Jee, H Shah, W Morrison, *GNSS Positioning using Cost Function Regulated Multilateration and Graph Neural Networks*, **ION GNSS+ 2023**
- D Belli, D Das, B Major and F Porikli, *Online Adaptive Personalization for Face Anti-spoofing*, **ICIP 2022**.
- D Belli, D Das, B Major and F Porikli, *A Personalized Benchmark for Face Anti-spoofing*, **WACV 2022 MAP-A workshop**.
- D Belli and T Kipf, *Image-Conditioned Graph Generation for Road Network Extraction*, **NeurIPS 2019 GRL workshop**.
- G Bani*, D Belli*, G Dagan*, A Geenen*, A Skliar, A Venkatesh, T Baumgartner, E Bruni and R Fernández, *Adding Object Detection Skills to Visual Dialogue Agents*, **ECCV 2018 SiVL workshop**.
- D Belli, S Hu, E Sogancioglu and B van Ginneken, *Context Encoding Chest X-rays*, **arXiv preprint**.
- E Sogancioglu*, S Hu*, D Belli and B van Ginneken, *Chest X-ray Inpainting with Deep Generative Models*, **arXiv preprint**.

Volunteering

2020-25 **Conference Reviewer:** WACV (2022-2023-2024-2025), LoG (2023-2024), ICCV (2021)

2020-25 **Workshop Reviewer:** ML on Graphs (GLF @ NeurIPS 2022-2023, GLB @ WWW 2022-2023, GRL+ @ ICML 2020)

2019-25 **Mentor at LeadTheFuture:** mentorship organization for selected top students in STEM from Italy.

2017-19 **Member and Treasurer at Master Committee:** organizing educational events for master students at UvA.

2015-17 **School Tutor:** teaching Maths, Physics and Computer Science to High School and Bachelor students.

Honors & Awards

2022-25	Top 4% : LeetCode contest ranking (Global)	Amsterdam, NL
2024-25	Top 12% : Codeforces contest ranking (Global)	Amsterdam, NL
2019	1st Place : Amsterdam Programming Contest	Amsterdam, NL
2018	Top 50% : ACM-ICPC Nwerc (European Semi-Finals)	Eindhoven, NL
2018	Top 50% : BAPC Regionals	Louvain-la-Neuve, BE
2016	Bronze Medal : ACM-ICPC Swerc (European Semi-Finals)	Porto, PT
2016-19	Top 15% : Google Hashcode	Amsterdam, NL
2008-13	Top 0.1% (7th out of 9000) : International Championships of Mathematical Games (Italian Finals)	Milan, IT
2019	Scholarship Gouda de Vries	Amsterdam, NL
2019	Scholarship EEML Summer School	Bucharest, RO
2018	MSc Scholarship Giuseppe Favrini	Trieste, IT
2017	BSc Merit Award University of Trento	Trento, IT
2014	High School Merit Award Confindustria	Mantova, IT