

Edoardo Mangia

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Education

University of Padua — Padua, Italy (Sept. 2020 - Jan. 2024)
B.Sc. Industrial Engineering (GPA 3.6/4.0)

Relevant Coursework: Computer Science (4.0/4.0) - Operations Research (4.0/4.0) - Electrotechnics (4.0/4.0)

Chalmers University of Technology — Gothenburg, Sweden (Sept. 2024 - Sept. 2026)
M.Sc. Engineering Mathematics (GPA 4.0/4.0)

Relevant Coursework: High-Performance Computing (4.0/4.0) - Bayesian Machine Learning (4.0/4.0) - Compiler Construction (4.0/4.0)

Experience

ASML — Veldhoven, Netherlands (Jan. 2025 - May. 2025)
Machine Learning Engineer Intern

The internship focuses on addressing nanoparticle contamination on the reticle in EUV scanners. More in detail, this involves:

- Modeling the effects of the EUV-plasma, electrostatics around the reticle, and chemical processes in the scanner.
- Building a pattern recognition model to identify clusters of particles on the reticle, considering their material composition, size and eventual bursts happening.
- Implementing a prediction model that, given new knowledge from the previous points, suggests hardware parts swaps inside the scanner to tackle the above-mentioned contamination problems.

As for the stack, on the day-to-day I'm using Python, Julia and MATLAB for machine learning and computational modeling. To interface with the company infrastructure we're using Databricks, Microsoft Azure and their APIs.

Skills

Programming Languages (Python, C, C++, Julia, MATLAB, SQL, R, Rust)

Machine Learning (TensorFlow, PyTorch, NumPy, scikit-learn, Colab, Jupyter)

Parallel Computing (CUDA, OpenMP, OpenCL, MPI)

Linux and Bash Scripting (vim, gdb, hyperfine)

Cloud Computing (AWS, Azure, Docker, Kubernetes)

ETL and Data Integration (Databricks, Hadoop, Spark, AWS Glue)

Projects ([GitHub](#))

Replicated and reimplemented research papers of personal interest.

University projects in Parallel Computing, Mathematical Modelling, Machine Learning and Scientific Visualization.

Languages

English (IELTS C1 - TRF: 2420000034MANE1IHA)

French, Spanish and Russian (basic conversational level)

Swedish (...work in progress)