

Dimitrios Anastasiou

Software Engineer

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🌐 Dimitrios Anastasiou



Software Engineer with a strong background in C++ and Python, developing performance-critical and data-driven systems on Linux and Windows. Experienced in extending large codebases, numerical and signal-processing algorithms, and building reliable analysis pipelines. Comfortable working close to hardware constraints, collaborating across teams, and contributing to maintainable, testable software.

Education

- **M.Sc., Computational Physics**, University of Copenhagen (2023–2025).
- **B.Sc., Physics**, University of Crete (2017–2022).

Technical Skills

- **Programming:** C++/C, Python, JavaScript (basic), HTML/CSS.
- **Systems:** Linux/Windows, GCC, CMake, Git
- **Performance & Concurrency:** MPI, OpenMP, CUDA, Vectorized NumPy/SciPy
- **Data & ML:** signal processing, numerical methods, statistical analysis, Pytorch, TensorFlow.
- **Spoken Languages:** English (Fluent), Greek (Native).

Projects

- **Thesis:** "Mechanisms of membrane repair using mesoscale computer simulations": Designed and extended a modular C++ codebase for large-scale simulations, implementing numerical and Monte Carlo algorithms under performance constraints. Worked with long-running data generation, validation, and Python-based analysis pipelines, emphasizing correctness, reproducibility, and maintainability.
- **Course:** "Applied Machine Learning": Built classification, regression, and clustering models on high-dimensional experimental data. Final project involved designing and training a Convolutional Neural Network for automated identification tasks.
- **Course:** "Applied Statistics: From Data to Results": Statistical data analysis, hypothesis testing, regression models, uncertainty quantification, and data-driven inference applied to real datasets using Python.
- **Course:** "High Performance Parallel Computing": Implemented a parallel Metropolis algorithm in CUDA C++, focusing on memory access patterns, performance scaling, and correctness across architectures.
- **Course:** "Signal and Image Processing": Implemented algorithms for time- and frequency-domain signal analysis, digital filtering, spectral transforms (FFT), and feature extraction. Developed Python tools to process, analyze, and visualize real-world measurement data.

Research Publication

- Schuhmann, Fabian, Jan A. Stevens, Neda Rahmani, Isabell Lindahl, Chelsea M. Brown, Christopher Brasnett, Dimitrios Anastasiou et al. "TS2CG as a membrane builder." *Journal of Chemical Theory and Computation* (2025). <https://doi.org/10.1021/acs.jctc.5c00833>.

Work Experience

- May 2025 - Jul. 2025 • **Port Delivery Agent** Intercruises, TUI Denmark, Copenhagen.
- Sep. 2024 - May 2025 • **Grocery Associate** Wolt, Copenhagen, Denmark.
- Jul. 2024 - Aug. 2024 • **Port Delivery Agent** Intercruises, TUI Hellas, Piraeus.