Thomas Zacharis PhD

contact
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personal website
thwmakos.xyz

linkedin profile
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programming
C++23, matlab, Mathematica, Python, Rust, HTML, CSS, LaTeX

publications
https://orcid.org/0000-0002-5445-162X

short bio

Recent PhD graduate in mathematics with a specialisation in dynamical systems, combining advanced analytical skills with a strong programming background. Proven ability to tackle complex problems, innovate solutions, and apply mathematical concepts in diverse domains, seeking a challenging position that leverages both mathematical expertise and programming proficiency.

skills

- effective communication: able to communicate complex ideas clearly and concisely to both technical and non-technical audiences
- collaborative mindset: experienced in working effectively in a team environment, with a strong ability to collaborate and contribute to open-source projects
- adaptability and flexibility: quick to adapt to changing project requirements and priorities
- prioritisation organisation: skilled in managing multiple projects and deadlines, with a strong ability to prioritise tasks and maintain a high level of productivity
- critical thinking and problem-solving: able to approach problems from multiple angles, think critically, and develop creative solutions
- resilience and perseverance: strong ability to work through challenges and setbacks, with a commitment to finding solutions and overcoming obstacles
- continuous learning and improvement: committed to ongoing learning and professional development, with a strong desire to stay up-to-date with the latest technologies and methodologies

knowledge areas

software strong knowledge of C++23 (RAII, STL, unit testing, modern practices, CMake, meson, multithreading, SIMD optimisation), matlab, Mathematica, Python (numpy, scipy, pandas, sage, selenium webdriver), QtWidgets, OpenGL, Rust, HTML/CSS, web hosting, development on Linux environement

theoretical scientific simulation, numerical schemes for ordinary and partial differential equations, finite differences and finite elements, MCMC methods, data structures & algorithms, number theory and algrebra of cryptography, linear and nonlinear optimisation, graph theory, inverse problems, data assimilation

education & professional experience

2019–2025 **Teaching assistant & programming instructor** — University of Edinburgh
Tutor in theoretical, applied, computational mathematics and programming (algorithms, optimisation, numerical and symbolic computation in Python)

2018 – 2023 **PhD** in Mathematics — University of Edinburgh
September 2018 – July 2023, funded by Maxwell Institute

2017–2018 **MSc** in Computational Applied Mathematics — University of Edinburgh
Scholarship from University of Edinburgh

2012–2017 **BSc** in Mathematics — University of Athens
Admission award for exceptional students