

KALLE HEINONEN

00530 ◊ Helsinki

kalle.a.heinonen@aalto.fi

PERSONAL DETAILS

I am MSc in mathematics. I graduated from the study track of geometry, algebra and topology at University of Helsinki. My master's thesis was the Poincaré-Hopf index theorem, which relates data from isolated singularities of vector fields on closed manifolds to its purely topological invariants.

EDUCATION

Bachelor of Science in Mathematics, University of Helsinki Sep 2020 - May 2023 completed
Minor in computer science

Master of Science in Mathematics, University of Helsinki Sep 2023- March 2025

SKILLS

Technical Skills	Problem solving, LaTeX, Python, Haskell, basics of Matlab, R and SQL.
Mathematics knowledge	https://kalleheinonen.github.io/sivu/mathlist ← elaborated here
Computer science knowledge	The basic minor studies such as python programming, computer organization, algorithms and databases. Additionally functional programming in Haskell.
Languages	Finnish: Native, English: Full professional proficiency, Swedish: Limited.

JOB EXPERIENCE

Non-military service at Aalto department of mathematic's and system's analysis. Sep 2025- Aug 2025

TEACHING EXPERIENCE

Teaching assistant Oct 2021 - March 2025
University of Helsinki

- Solvery tutor¹.
- Academic skills in mathematics MAT20005 2 ECTS².
- Algebraic structures I and II (groups, rings, fields) / MAT21010 and MAT21011 5 + 5 ECTS.
- Functional analysis I and II / MAST30170 and MAST30171 5 + 5 ECTS.
- Topology Ia and Ib (topology of metric spaces) / MAT21005 and MAT21006 5 + 5 ECTS (2 times both courses).
- Introduction to university mathematics (discrete math + complex numbers) MAT11001 5 ECTS
- Complex analysis MC-1300 (at Aalto university) 5 ETCS
- High school substitute teacher occasionally.

OTHER ACADEMIC AND EXTRA CURRICULAR ACTIVITIES

Vice student representative of bachelor's program in mathematics at UH³ (2023-2024). Student representative and vice student representative of master's program in mathematics and statistics at UH (2024-2025). Vice member of the HYY⁴ representative council (2022-2024). Multiple responsibilities including the board twice in Matrix ry⁵ (2021-2025). Vice chair and board of Moodi ry⁶ (2024-2025). Multiple responsibilities in UH student nation Hämäläis-Osakunta (2021-2025).

¹Tutoring sessions in university mathematics.

²Freshman course for mathematical reading and writing.

³University of Helsinki

⁴Student union of the University of Helsinki.

⁵Mathematics student organization.

⁶Statistics student organization.