

Miro Palmu – CV

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Personal Profile

I hold a Bachelor of Science degree in Theoretical Physics. My interests include programming, simulations, and high-performance computing using modern data-parallel C++.

Education

- 2025** Bachelor of Science: physics, University of Helsinki
Average grade of 4.85 out of 5 (226 ECTS)
Theoretical physics with minor in computer science.
- 2023** The CSC Summer School in High Performance Computing

Employment History

- Summer 2023** CSC – IT CENTER FOR SCIENCE LTD.
Trainee
Preparing work for team Norppa in IndySCC HPC student competition and writing internal documentation for SYCL and oneAPI SYCLomatic.
- 2022 – 2023** University of Helsinki
Part-time research assistant
Optimizing ionosphere potential solver of Vlasiator in space physics research group by porting it to CUDA.
- Summer 2022** University of Helsinki
Research assistant
Data analysis of data from Vlasiator simulation in space physics research group.
- 2022** Aalto University and University of Helsinki
Teaching assistant
Two physics courses in Aalto and one in University of Helsinki.

Competitions

- 2nd place** Indy Student Cluster Competition 2023
Member of team Kuutti (CSC).
Sysadmin of the team, responsible for writing Ansible script to automate the cluster setup (github.com/MiroPalmu/kuutti).

Positios of Trust

- 2022** Resonanssi Ry
Secretary
Secretary and member of the board at Resonanssi ry, which is a organization for students of the physical sciences at the University of Helsinki.

Technical skills overview

Strong knowledge of C++ development, including technical concepts and tools such as compilers, build scripting, automated testing, debuggers and package managers. Proficient in version control (**git**) and automated testing, with a solid understanding of their importance in software development. Extensive experience with local and HPC **Linux** environments, including daily use of a highly customized Arch Linux system. Hands-on expertise in various parallel computing techniques (**SYCL**, **CUDA**, **Vulkan**, **MPI**, **simd** and **OpenMP**) with an understanding of the underlying hardware and optimization strategies. Skilled in writing **Python** and **Bash** from scripts to larger programs.