

Ondřej Kubánek

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Education

- 2023-now **Master**, *Chalmers University of Technology*, Computer science – algorithms, languages and logic
Relevant Types and Proofs (Agda), Reading group on Homotopy type theory, Programming Language
Courses Technology, Advanced Functional Programming
Grades Weighted grade average: 4.6/5 (I guess)
- 2020–2023 **Bachelor**, *Charles University*, Prague, Theoretical Computer Science - Specialization Advanced
Combinatorics, Computational Geometry
with honors
Relevant Formal mathematics and Proof Assistants (Lean 3), Automata and Grammars,
Courses Advanced Programming in Haskell, Compiler Optimizations, reading group on PL theory (managed
by Tomáš Petříček)
Grades Weighted grade average: 1.13, (3.87 GPA)
- Bachelor thesis**
title **Improving GCC loop optimisation with histogram profiling**, *Grade A*
description Adding new histogram counter to Gcov and improving loop optimisations
e.g. peeling and vectorization by having more precise information about loop iterations
supervisors doc. Mgr. Jan Hubička, Ph.D.
result SPEC CPU 2017 integer benchmarks improved by 1% (yearly rate of progress 2.5%)
presentation Talked about it at **GNU Cauldron 2023**

Experience

- 2022 **HoTTest summer school 2022**, *My introduction to dependent types and homotopy type theory*
- 2023-now **Project in Computer Science**, *Developing a IR transformation of a new functional programming
language designed for high-performance*, advised by András Kovács
- 2023-now **Research assistant**, *Adding Russell universe to a agda formalization of a Logical Relation of
Dependent type theory*, advised by Nils Anders Danielsson

Coding examples

- Haskell Haskell course
C++ G-machine

Programming Languages

- Solid Haskell, C++, Agda
Intermediate Python, Lean 3, Nix, C
Basics SQL, Prolog, C#

Languages

- English C1 - CAE