Przemysław Leśniak

Computer Science student

7 may 1994

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About me

I am passionate Computer Science student from Poland that enjoys problem solving and technical things. Currently on student exchange in Saarbruecken, Germany.

Skill

English

C++

Object Oriented Programming

git⋆5.0 Java⋆2.5 Python⋆3.0 C⋆4.0 Haskell⋆2.0 Coq⋆1.5 Assembly⋆2.0 Linux Command Line⋆3.0

(*)[The skill scale is from 0 (Fundamental Awareness) to 6 (Expert).]

education

since 2017 — M.Sc. — Saarland University
Computer Science, one semester student exchange

since 2016 — M.Sc. — University of Wrocław
Computer Science

2013-2016 — B.Sc. — University of Wrocław
Computer Science: 4.5/5.0
Virtual memory subsystem for mimiker operating system

experience

2017 — Google Summer of Code — Remote
Improving LLVM Backend for Chapel Compiler
- Improved vectorization by fixing serious bug and adding extra metadata in resulted code which in some cases improved performance of executed code by 400%.

2016-2017 — Nokia, C++ Software Engineer — Wrocław
TTCN-3 Compiler Project
- Greatly reduced number of memory allocations in compiled code using object pool-like design pattern inspired by slab allocator leading to 20% performance gain on average.
- Reduced number of copy operations by introducing move operation in runtime and adding it to compiler code generation that resulted in 10% performance gain in some cases.

2015 — Nokia, C++ Summer Trainee — Wrocław
Parsing library project
- Participated in library design inspired by Parsec library from Haskell language that was used to implement partial parser for TTCN-3 language.
- Designed and implemented algorithm (based on pushdown automata) to locate changes in code in real time that would need to be re-parsed.
- Integrated the algorithm into QtCreator to provide IDE functionality like auto-completion and jumping to function definitions.

project highlights

mimiker — University of Wrocław operating system — C, MIPS assembly
Played a big role in virtual memory subsystem, mutex implementation, gdb scripting, ramdisk loading, basic filesystems. Helped other students get into the project.

quant — Lossy Image Compression — C++14
Reduces image size by 80% while preserving good image quality. Optimized typically slow algorithm by using specially tuned data structures, parallelising parts of code and modifying compiler flags.

hCompiler — Compiler that compiles tiny subset of C — Haskell
Compiles directly to x86 assembly using syntax directed code generation. Has working recursion and basic language constructs.

GraphDrawer — Visual and real-time editing graph drawing program — Java
Rich in functionality: performs various algorithms on graph, saves graphs as images, drawes pretty graph images.

CubeSolver — Rubik's cube solving program — Python
Finds solution to physical rubik's cube and guides the user through it.

other information

Hobbies: Popping, Speedcubing

Github: `https://github.com/coodie/`

CodeForces: `http://codeforces.com/profile/goovie`