



Przemysław Leśniak

Computer Science student



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Saarbrücken, Germany



+48 516706214



przemek.lesniak1@gmail.com

About me

I am a passionate Computer Science student from Poland that enjoys problem solving, programming and figuring out how things work. Currently on student exchange in Saarbrücken, Germany.

Skill

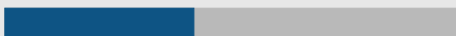
C++



C



Python



Java



Haskell



Linux



Object Oriented Programming



git



English language



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

education

| | | |
|------------|--|-----------------------|
| since 2017 | M.Sc. Computer Science, one semester student exchange | Saarland University |
| since 2016 | M.Sc. Computer Science | University of Wrocław |
| 2013-2016 | B.Sc. Computer Science: 4.5/5.0 <i>Virtual memory subsystem for mimiker operating system</i> | University of Wrocław |

experience

| | | |
|-----------|---|-------------|
| now | Compiler design lab, Student Assistant <i>SafeC research project</i> - Extending LLVM for research purposes. | Saarbrücken |
| 2017 | Google Summer of Code <i>Improving LLVM Backend for Chapel Compiler</i> - Improved vectorization by fixing a serious bug and adding extra meta-data in LLVM IR which in some cases improved performance of executed code by 400%. | Remote work |
| 2016-2017 | Nokia, C++ Software Engineer <i>TTCN-3 Compiler Project</i> - 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. | Wrocław |
| 2015 | Nokia, C++ Summer Trainee <i>Parsing library project</i> - 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 and the parser into QtCreator to provide IDE functionality like auto-completion and jumping to function definitions. | Wrocław |

project highlights

| | | |
|-------------|---|------------------|
| mimiker | University of Wrocław operating system Played a big role in virtual memory subsystem, mutex implementation, gdb scripting, ramdisk loading, basic filesystems. Helped other students get into the project. | C, MIPS assembly |
| quant | Lossy Image Compression Reduces image size by 80% while preserving good image quality. Optimized typically slow algorithm by using tuned data structures and parallelizing parts of code. | C++14 |
| hCompiler | Compiler that compiles tiny subset of C Compiles directly to x86 assembly using syntax directed code generation. Supports working recursion and basic language constructs. | Haskell |
| GraphDrawer | Visual and real-time editing graph drawing program Rich in functionality: performs various algorithms on graph, saves graphs as images, draws pretty graph images. | Java |

other information

Hobbies: popping dance, speedcubing

Github: <https://github.com/coodie/>