Krzysztof Pszeniczny

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Education

University of Warsaw, Poland
Master's degree in Computer Science   *2016 – 2018 (expected)*
GPA so far: 5.00/5.00, specialisation: Cryptography.
The top student in: Distributed Systems, Logic, Compiler construction.

University of Warsaw, Poland
Bachelor's degree in Computer Science   *2013 – 2016*
GPA: 4.99/5.00, major 5.00/5.00, graduated top of the class
Took multiple additional elective Computer Science courses, total credits: 280 ECTS out of 180 required.
The top student in multiple courses including: Advanced Topics in Operating Systems, Parallel and Distributed Programming (graduate course), Computer Networks, Security of Computer Systems, Computer and Network Architecture, Databases, Numerical Methods, Programming Languages and Paradigms, Introduction to Functional Programming, Advanced Functional Programming, Logic and Type Theory, Logic Programming, Program Semantics and Verification, Computer-aided Verification, Languages and Automata and Computations.

University of Warsaw, Poland
Bachelor's degree in Mathematics   *2013 – 2017 (expected)*
Advanced (honours) classes wherever available, major GPA so far: 5.00/5.00, specialisation: Algebra.
The top student in multiple courses including: Linear Algebra I & II (honours course), Algebra I (hon.), Topology I (hon.), Probability II (hon.).

Work experience

Software Developer Intern
Jane Street Europe Ltd., London, UK and New York, NY, USA   *2016-07 – 2016-09*
Developed internal tools and investigated garbage collection heuristics.
Technologies used: OCaml. Found and fixed a bug in OCaml's garbage collector, fix has been merged into OCaml 4.04.

Software Developer Intern
Gemius S.A., Warsaw, Poland   *2015-07 – 2015-09*
Improved, troubleshooted and administrated an in-house resource-limiting cloud management system.
Technologies used: Python, C++, Linux cgroups, MongoDB.

Selected university projects

- Monte-Carlo Markov chain-based chromatin simulation engine developed for the Regulomics research group at the University of Warsaw. A year-long project written in advanced, state-of-the-art Haskell and C++ in a team of four, featuring a custom domain specific language and data storage format. Two orders of magnitude faster and three orders of magnitude more storage-efficient than the previous implementation. I was responsible for the most design choices and code written. [github link].
- Advanced Topics in Operating Systems course: restoring processes from coredumps; a simple graphics device driver (successfully used model checking to reduce the number of bugs); extending the Linux ext2 driver with a rudimentary support of copy-on-write semantics. [github link].
- An interpreter of a lazy, strongly and statically typed toy functional programming language with Hindley-Milner type inference, written in C# with a simple graphical user interface for Windows Phone. [github link]. Another interpreter, written for different course in advanced Haskell: [github link].
- A tool measuring network latency using a variant of mDNS and DNS-SD for service discovery. Written in C. [github link]
- A website that allows users to record their rail journeys. A project written in a team of three. I was responsible for the backend written in Scala and PostgreSQL. [live site link].

Prizes and scholarships

2014 – 2016: Dean's list.

2013 – 2015: Participant of the ACM-ICPC Regionals (CERC), the 7th place in 2015.

2012, 2015: Finalist of the Potyczki Algorytmiczne (Algorithmic Engagements) algorithmic competition.

2013: Silver medal at the International Olympiad in Informatics; finalist of the Marathon 24 team programming competition; finalist of the Polish Mathematical Olympiad.

2010 – 2013: Scholarship of the Ministry of Education.

2012: Winner of the Baltic Olympiad in Informatics; member of the winning team in the Microsoft BubbleCup team programming competition; member of the Polish team in the Baltic Way team mathematical competition; gold medal at the Polish Olympiad in Informatics.

2011: Winner of the Central European Olympiad in Informatics.

Technical skills and interests

- Fluency in C, C++ (delivered a talk at a Warsaw C++ Users Group meeting), Haskell and OCaml, intermediate: Python and Scala.
- Other technologies: git, svn, hg, thrift, protocol buffers, MPI, SQL; Unix/POSIX/Linux, low-level and network programming. Formal verification and model checking: Coq, SPIN, NuSMV. Basics of x86 assembly.
- Advanced functional programming, compiler design, algorithms and data structures, cryptography.