Grzegorz Guśpiel

phone: +48 607 083 266, e-mail: guspiel@gmail.com

Education

10/15 – 07/20 PhD, Computer Science, Jagiellonian University, focus: algorithms, combinatorics, graph theory

10/13 – 07/15 MSc, Computer Science, Jagiellonian University, with distinction

10/10 – 06/13 BSc, Computer Science, Jagiellonian University, with distinction

Experience

07/16 – 09/16 Jane Street, software engineering intern
(wrote a library that automatically generated code of serialization functions for various kinds of user-defined types, in order to prevent mundane coding each time a new type was introduced; OCaml, ppx)

07/13 – 09/13 Google, software engineering intern
(built a new anti-abuse mechanism, measured its effectiveness on a farm of Android devices, selected best-performing implementation out of ~15 variants; Java, Go)

07/12 – 09/12 Facebook, software engineering intern
(contributed optimizations to the process of pushing indexes to search servers; Python, Bash, Java, C++)

2008 – 2011 web application for Dive Centre Kraken
(wrote and maintained a web app that managed dive trainings, course payments, instructor commissions, exam results etc.; used to manage courses of over 1000 divers; PHP, MySQL)

Competitions

2015 15^{th} place in ACM ICPC World Finals

2013 **bronze medal in ACM ICPC World Finals**

2011, 2012, 2014 2^{nd}, 3^{rd} and 7^{th} in Central Europe Regional Contest (ICPC regional for 7 countries)

Research

2015 – 2020 5 publications (full list here)
- *1 paper in Journal of Combinatorial Theory, Series B – a top journal in combinatorics*
- *3 papers presented at computer science conferences with CORE2018 rank A*
- *thesis received very good reviews*
- *created an $O(n\sqrt{n})$ algorithm to invert a permutation using constant additional memory*
- *contributed to a graph drawing paper by speeding up the main algorithm from $O(n^2)$ to $O(n \log^2 n)$, improvement achieved by applying persistent 2D segment trees and planarity-related observations*

2017 – 2020 paper reviews for *ACM-SIAM Symposium on Discrete Algorithms*, *International Colloquium on Automata, Languages and Programming*, *Discrete Mathematics*

2014 – 2019 supported by *Diamond Grant* (research grant awarded to 100 students in Poland each year)

Teaching

09/17 – 09/19 algorithmics teacher at 5^{th} High School in Kraków (delegated by Jagiellonian University)
- *one of very few high schools in Poland offering weekly university-led algorithmics lessons, attracting most gifted young informatics enthusiasts in southern Poland*
- *class of 30 students, intensive course starting from basics of C++ and covering most of classic algorithmics, with a strong focus on implementing learned algorithms at home on weekly basis*
- *challenges: keeping lessons attractive both for most talented students and slow learners, maintaining high requirements, checking on students that were falling behind, preventing forbidden code copying*
- *result: students left high school as C++ programmers with experience in coding numerous advanced algorithms, 6 of them advanced to the finals of Polish Olympiad in Informatics*

2015 – 2019 teaching assistant for algorithmics course at Jagiellonian University (6 semesters)

2019, 2020 co-organizer of intensive week-long algorithmic workshops for high school students

problemsetter: Polish Collegiate Programming Contest (2019), Central Europe Regional Contest (2013), several Jagiellonian University preliminaries (2015 – 2020)

Skills

long-time C++ user; basic familiarity with Linux&Bash

languages: English (fluent), German (basic), Polish (native)