Aleksandar Krastev

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Education

Massachusetts Institute of Technology EXPECTED JUN 2023

- Pursuing a B.S. in Computer Science and Engineering GPA 5.0/5.0
- Coursework: Computational Structures, Software Construction, Theory of Computation, Algorithms for Graphs and Matrices, Introduction to Machine Learning, Probability and Random Variables

Skills

Software C++, Python, Java, JavaScript, RISC-V asm, Linux, LaTeX, Git, HTML, make
Languages English, Bulgarian, beginner German

Experience

QuantCo / Software Engineering Intern JUN 2020 - AUG 2020

- Developed and tested a Python wrapper for R Generalized Random Forests using rpy2.
- Migrated model training and validation from R to Python.

MIT CSAIL / Undergraduate Researcher FEB 2020 - PRESENT

- Optimizing HDL implementations of Numerical Theoretic Transform functional units for use in an accelerator for Fully Homomorphic Encryption.
- Researched applications for a hardware stream merger. Evaluated BFS and triangle counting by implementing them in C++ and running hardware simulations.

Leadership

Bulgarian Informatics / Instructor & Problem Author AUG 2017 - PRESENT

- Developed two tasks for contests with 75+ participants from up to 7 countries.
- Prepared and presented three lectures on topics in data structures and algorithms in front of the top 20 Bulgarian high school students.

High School Olympiads

Gold Medals

- International Olympiad in Informatics, Tsukuba, Japan SEP 2018
- Balkan Olympiad in Informatics, Timișoara, Romania JUL 2018
- Romanian Masters of Informatics, Bucharest, Romania OCT 2018

Silver Medals

- International Olympiad in Informatics, Baku, Azerbaijan JUL 2019
- European Physics Olympiad, Riga, Latvia JUN 2019
- International Olympiad in Informatics, Kazan, Russia AUG 2016

Independent Projects

Nitwit Compiler for a made-up programming language implemented in C++
Gemini Co-op puzzle platformer implemented in JavaScript
Stealth Top-down 2D game implemented in JavaScript
Judge System Python/Django website for testing of solutions to algorithmic tasks