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
- Past courses: Software Construction, Theory of Computation, Algorithms for Graphs and Matrices, Introduction to Machine Learning, Probability and Random Variables
- Current: Computer System Architecture, Distributed Systems, Advanced Data Structures

Skills

Software C++, Python, Java, Go, 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–AUG 2020
- 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