

Ramazan Rakhmatullin

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Education

University of Waterloo

MASTER OF MATHEMATICS IN COMBINATORICS AND OPTIMIZATION

- Research program; Thesis topic: provably NP-hard inapproximability of matching problems

Waterloo, ON, Canada

January 2023 - April 2024

Higher School of Economics

BACHELOR OF SCIENCE IN APPLIED MATHEMATICS AND COMPUTER SCIENCE

- Machine Learning and Applications, 3.32 GPA
- Thesis topic: computing maximum matching without crossings in convex bipartite graphs and extensions

Moscow, Russia

September 2018 - June 2022

Skills

Fields of interest

Algorithms and Data Structures, Combinatorics, Time efficient implementations in C++, Discrete Optimization

Applied Statistics, Data Analysis, Machine Learning, Deep Learning

Languages

C++ (9 years), Python (3 years), Java (2 years)

Other

Pytorch, Numpy, CatBoost, Pandas, Perf, Docker, Bash, Git

Achievements

PERSONAL

Sep. 2018 **Gold medal, National champion - IOI**, The most prestigious high school programming competition

Tokyo, Japan

Oct. 2021 **3rd - IMC Coding Challenge**, Discrete optimization competition with valuable prizes

Online

Feb. 2022 **Winner - Yandex Profi**, National ML/DL competition for Bachelor students (5000\$ first prize)

Online

Aug. 2021 **Winner - VK Cup**, The most prestigious programming competition for Russian speaking community

Online

Dec. 2020 **Finalist - Meta Hacker Cup**, Over 18,000 students and professionals in a programming competition

Online

TEAM COMPETITIONS

Nov. 2022 **Bronze medal, Regional champion - ICPC WF Dhaka**, representing HSE University; as a captain and coach, I set up practice curriculum and team strategy, analyze and fix mistakes

Dhaka, Bangladesh

Apr. 2020 **6th - Google Hash Code**, Over 100,000 students and professionals in an optimization competition

Online

Work

Yandex Delivery

SWE & DATA SCIENCE

- Solving NP-hard orders clusterization problem, invented beam search algorithm in a novel setting
- Increased main metric (batch rate) by 30%
- Data analysis, hypothesis testing
- Implementing and enhancing backtesting simulator (Python)

Moscow, Russia

July 2022 - December 2022

National IOI Team Summer and Winter Camps

COACH

- Intensive training and selection of the national IOI team
- Giving seminars on problem solving techniques
- Creating and preparing complex CS tasks for the selection competitions

Moscow, Sochi, Russia

November 2018 - June 2022

Projects

- **Bachelor's thesis** on fast algorithm for computing maximum matching without crossings in convex bipartite graphs, extending [this](#) paper (LIS, self-balancing trees, dynamic programming, tight bounds)
- [Implementation](#) of [paper](#) on dynamic maximum matching in convex bipartite graph (matroid theory, bipartite matchings, self-balancing trees, divide and conquer technique)
- **Research paper** on fast ILP algorithms for checking Nash solvability of specific game classes on graphs
- Member of jury of the Russian National Olympiad in Informatics
- [DL Homeworks](#) from university course about training deep models from scratch