

Kerim Koçekov

Research area: Program analysis and programming languages

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EDUCATION

- **Hong Kong University of Science and Technology, PhD** Sept 2022 – Aug 2026
Thesis: Parameterized Algorithms for Verification and Compiler Optimization.
- **Innopolis University, BSc in Computer Science (Data Science)** Aug 2018 – Aug 2022
Thesis: Image-Text Matching using an Encoder and Decoder architecture.

EXPERIENCE

- **Hong Kong University of Science and Technology** Hong Kong
Teaching Assistant February 2023 – Present
 - **COMP 5712**: Introduction to Combinatorial Optimization.
 - **COMP 3711H**: Honors Design and Analysis of Algorithms. Average rating by the students: **4.95/5.0**.
 - **COMP 4901W**: Blockchain, Cryptocurrencies and Smart Contracts. In total, **109** students took the course.
- **Oxford University** Oxford, United Kingdom
Visiting Researcher February 2025 – December 2025
 - **Research project**: Conducted research on compiler optimization, specifically the effective merging of similar functions at the Intermediate Representation (IR) level, resulting in a publication at the **PLDI 2026** conference.
- **Getir** Remote
Backend Engineer in Algorithm Team February 2023 – July 2024
 - **Courier optimization**: Developed a novel clustering algorithm for the existing model in **Google OR-Tools** to reduce the complexity of vehicle routing problems. It has been utilized heavily in all cities in Türkiye for **9** months and improved the throughput of courier utilization by **20-30%** and decreased the miss ratio of checkout orders by **10-15%**.
- **Morphy Capital** Istanbul, Turkey
Quantitative Researcher May 2022 – August 2022
 - **Dynamic feature selection**: Developed a dynamic algorithm in **Python** for feeding my ML models.
 - **ML algorithm**: Constructed a model for BIST-30 using **Catboost** (gradient boosting tree algorithm) and outperformed the baselines of the company by **9%** with the help of a model and feature selection algorithm.

PUBLICATIONS

- **Parameterized Algorithms and Complexity for Function Merging with Branch Reordering**: Accepted to **PLDI 2026** (Programming Language Design and Implementation).
A. K. Goharshady, K. Koçekov, T. Shu, and A. K. Zaher.
- **Exploiting the Sparseness of Control-flow and Call Graphs for Efficient and On-demand Algebraic Program Analysis**: Published in **OOPSLA 2023** (Object-oriented Programming, Systems, Languages, and Applications). *G. K. Conrado, A. K. Goharshady, K. Koçekov, Y. C. Tsai, and A. K. Zaher.*

AWARDS

- **Hong Kong PhD Fellowship Scheme (HKPFS)**: Fellowship recipient for 4 years, which is an exceptionally competitive and prestigious award granted to only 300 top-tier PhD students worldwide.
- **ACM-ICPC Northern Eurasia 2018, 2020 and 2022**: 3rd-degree diplomas.
- **Meta Hackercup 2021 3rd round**: Ranked 342nd place out of 34,584 participants (top 1%).
- **Google Hash Code 2019**: Ranked 101st place out of 6,647 teams (top 2%).
- **International Olympiad in Informatics 2018 (~90 countries participated)**: Bronze medal.
- **International Zhautykov Olympiad 2018 (Computer Science) (~35 countries participated)**: Silver medal.
- **National Olympiad in Informatics 2018 (Turkmenistan)**: 1st place.
- **Asian-Pacific Olympiad in Informatics 2017 (~34 countries participated)**: Bronze medal.