

Emil Indzhev

EDUCATION

- 2018 – 2021 **St Catherine's College,
University of Oxford, UK**
BA Computer Science
GPA: 86.75/100
Rank: First place
- 2013 – 2018 **Baba Tonka High School of
Mathematics, Ruse, Bulgaria**
Secondary Education

WORK EXPERIENCE

NOVEMBER 2021 – ONGOING

Radix Trading

Quantitative Technologist

Made improvements in strategy optimization that increased PnL by 5%. Developed market data re-playability in distributed trading systems. Built a new reconciliation and monitoring tool. Added features to the research pipeline.

JUNE 2021 – SEPTEMBER 2021

Jane Street

Quantitative Trading Intern

Analyzed historical data about trading patterns. Participated in mock trading challenges. Had a number of trading and finance related classes.

JULY 2020 – SEPTEMBER 2020

Jane Street

Software Engineering Intern

Improved an internal tool for managing database permissions and roles based on specifications given by custom scripts.

JULY 2019 – SEPTEMBER 2019

Ocado Technology

Software Engineering Intern

Worked on a reinforcement learning project about training a robotic arm. Added features and environments to a branch of the Robosuite simulator.

SEPTEMBER 2018 – FEBRUARY 2019

Musala Soft

Software Developer

Developed algorithmic problems for Musala Soft's international programming competition CodeIT.

SOFTWARE SKILLS

LANGUAGES	C++, C, Python, OCaml, Scala, Haskell, Java, C#, JavaScript
PLATFORMS	Windows, Linux
OTHER	Git, \LaTeX , Microsoft Office, Google Sheets



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PERSONAL PROJECTS

Evolving Snakes

Snakes in an environment similar to the classical game Snake are controlled by neural networks and can reproduce. They evolve and varying emergent behaviors arise.

Particle Structures

Physics simulation with procedurally generated laws that lead to particles forming interesting lattices.

AIs for Board Games

AIs for various board games, based on hard-coded heuristics, various search algorithms and/or Monte Carlo approaches.

IUPAC Name Generator

Generates the scientific names of complex organic compounds according to the IUPAC specifications.

Physics Simulation

Physics simulation made up of basic building blocks. Complex physical phenomena, such as wave diffraction, appear without being preprogrammed.

Kigarai

A machine learning library for C++ built from scratch. Supports most common types of layers and activation functions, as well as adding custom ones.

ACHIEVEMENTS AND AWARDS

At Oxford

- 2021 **Overall highest final grade**
Highest final grade for the degree of BA Computer Science
- 2021 **Best student project**
Best dissertation/project submitted for the degree of BA Computer Science
- 2021 **Publication in Information Processing Letters**
Paper title: On complementing unambiguous automata and graphs with many cliques and cocliques

International competitions

- 2023 **Reply Code Challenge**
First place, with team 🏆
- 2022 **Google Hash Code**
Second place, with team 🏆
- 2020 **Google Hash Code**
Finalist, with team Eel
- 2018 **Microsoft Bubble Cup**
Finalist, with team nikva tikva
- 2017 **International Autumn Tournament in Informatics**
Bronze Medal
- 2017 **International Linguistics Olympiad**
Bronze Medal
- 2016 **International Autumn Tournament in Informatics**
Bronze Medal
- 2015 **Balkan Olympiad in Informatics**
Bronze Medal
- 2014 **Junior Balkan Olympiad in Informatics**
Gold Medal
- 2014 **International Conference on Computer Systems and Technologies**
Crystal Prize for Best Paper

Notable national competitions

- 2018 **National Olympiad in Linguistics**
Silver Medal
- 2018 **Spring Competition in Informatics**
Gold Medal
- 2018 **National Olympiad in Physics**
Laureate
- 2018 **National Olympiad in Informatics**
Gold Medal
- 2017 **Autumn Competition in Physics**
Silver Medal
- 2017 **Young Physicists' Tournament**
First Place, with team Perun

OTHER ACTIVITIES

ONGOING

Informatics and Linguistics Competitions

Problem Setter and Grader

Frequently setting problems for Bulgarian national and international competitions in informatics. Also, occasionally setting problems for linguistics and mathematics competitions, as well as grading the works of competitors.

ONGOING

Various Places

Competitive Programming Lecturer

Occasionally holding lectures on competitive informatics topics such as some advanced algorithms and data structures at various summer schools, academies, etc.

LANGUAGE SKILLS

BULGARIAN	Native
ENGLISH	Fluent
ESPERANTO	Basic
GERMAN	Basic