

# BC. JAKUB RADA

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## SKILLS

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**Languages:** Czech, English, Spanish

**Interests:** Running, Gym, Learning, Coding, Reading, Hip-Hop music

**Programming Languages:** C/C++, Python, Julia, Rust, Haskell, Java, Javascript/Typescript, Dart, SQL, HTML/CSS

**Application Frameworks:** Flutter, Vue.js, Angular, Django, NodeJS

**AI/ML Tools:** PyTorch, NumPy, scikit-learn, DeepMind Control Suite, Gurobi, PySAT, Jupyter

**Skills and Traits:** Hardworking, Adaptability, Precision, Quick learner, Attention to Detail, Clean code, Problem solving, Responsibility

## EDUCATION

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**Czech Technical University in Prague** **09/2022 - present**  
Artificial Intelligence Master

- Master programme following the Bachelor programme with focus on Artificial Intelligence and Machine Learning.

**European Summer in Artificial Intelligence** **07/2024 - present**  
Artificial Intelligence Master / PhD

- 2nd European Summer School on Artificial Intelligence and 21st Advanced Course on Artificial Intelligence

**Korean Advanced Insitute of Science and Technology** **02/2023 - 06/2023**  
Exchange programme Master

- Exchange programme in South Korea during my first year of Master's studies. Apart from the new things I learned, it gave me plenty of experience into my future life.

**Czech Technical University in Prague** **06/2019 - 06/2022**  
Artificial Intelligence and Computer Science Bachelor

- Bachelor programme consisiting of Math, Algorithms and Computer Architectures and Introduction to Optimization and Artificial Intelligence

**Gymnázium, Praha 6, Nad Alejí 1952** **09/2011 - 06/2019**  
General Education High School for students aiming to attend a university High School

- One of the best High Schools in the Czech Republic providing great fundamentals in Math, Natural Sciences and Social Sciences

## MEMBERSHIPS AND SOCIETIES

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**Upsilon Pi Epsilon** **02/2024**  
Honorary Society Lifetime

## PUBLICATIONS

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**The ALNS metaheuristic for the transmission maintenance scheduling** **05/2023**  
Journal of Metaheuristics / Springer Nature Paper

## EXPERIENCE

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**Cross-platform Mobile App Development (WeAllMeet.live)** **06/2022 - present**  
SWEHQ | Part-time Software Engineering

- Flutter, Dart, Python, Django, Docker, Android, iOS
- Developing a cross-platform social mobile application in the Flutter framework with backend in Python and Django. We started from scratch and successfully released it to both App Store and Google Play.

### Web Software Development (Kappka)

SWEHQ | Part-time

**06/2021 - 11/2021**

Software Engineering

- Angular, Typescript, HTML, CSS, Javascript, NodeJS, Docker
- Development of a complex web application tool for mortgages for a big financial group. I worked on the front-end part of the application using Angular and Typescript.

### ROADEF Challenge 2020

CIIRC CTU | Part-time

**07/2020 - 06/2021**

Researcher and Developer

- C++, C, Python
- Research and development of a solution for an international competition in discrete optimization. The problems were too large to be solved exactly so we had to derive a complex Metaheuristic algorithm to find approximate solutions.

### Front End Web Developer

Scalesoft | Part-time

**08/2019 - 12/2019**

Software Engineering

- CSS, Typescript, HTML, Javascript, NodeJS
- Two-week internship before the first academic year, where I made both determinate and indeterminate progress indicators in pure CSS. This then translated into one semester long part-time job, where I worked on a web app.

## PROJECTS

### Weighted Feedback Arc Set Problem

Semestral project in Combinatorial Optimization

**05/2024 - 05/2024**

FEE CTU

- C++

### Quantum Simulator (Quantum Circuits)

Project in Quantum Computing

**04/2024 - 05/2024**

FEE CTU

- C++

### Reconstructing 3D objects from a set of 2D images

Semestral project in 3D Computer Vision

**09/2023 - 01/2024**

FEE CTU

- Python, Matlab

### Resume / Personal portfolio webpage

Free-time personal project

**09/2023 - 10/2023**

Personal

- Vue.js, Typescript, HTML, CSS

### Soft Actor-Critic algorithm implementation

Semestral project in Mathematical Foundations of Reinforcement Learning

**06/2023 - 06/2023**

KAIST

- Python, PyTorch

### Implementation of KAIST Educational C Compiler in Rust

Semestral project in Compiler Design

**02/2023 - 06/2023**

KAIST

- Rust

### Developing a novel approach to Dimensionality Reduction using Graphs

Semestral project in Graph Machine Learning and Mining

**05/2023 - 06/2023**

KAIST

- Python, PyTorch

### Double Oracle Algorithm for solving zero-sum normal-form games

Semestral project in Julia programming language University course

**01/2023 - 02/2023**

FEE CTU

- Julia

### **Comparing Exploration Methods in Partially Observable Stochastic Games**

**09/2021 - 05/2022**

FEE CTU

Bachelor Thesis combining Game Theory and Reinforcement Learning

- Julia, LaTeX, Python

### **Evolutionary and Memetic Algorithms**

**09/2021 - 01/2022**

FEE CTU

Semestral project from Evolutionary Algorithms

- C++, Python, LaTeX

### **Pong game for a microcontroller**

**06/2020 - 06/2020**

FEE CTU

Semestral project in Computer Architectures

- C

### **Chess Game with GUI and simple artificial player**

**02/2020 - 05/2020**

FEE CTU

Semestral project in Java

- Java, JavaFX

### **Flashcards web app in Electron**

**02/2019 - 05/2019**

GNA

Graduation project at High School

- Javascript, HTML, Python, CSS, Django

### **Baltie 3 projects**

**09/2008 - 09/2012**

Extracurricular

Graphical programming language Baltie 3 to learn C/C++

- Baltie 3

## **ACHIEVEMENTS**

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### **Daegu International Half Marathon 2023**

**04/2023 - 04/2023**

10th place

Daegu International Marathon

### **Soul Marathon 2023 Relay**

**03/2023 - 03/2023**

1st place

Seoul Marathon

### **Comparing Exploration Methods in Partially Observable Stochastic Games**

**06/2022 - 06/2022**

FEE CTU

Dean's award for exceptional Bachelor Thesis

### **ROADEF Challenge 2020**

**06/2021 - 06/2021**

2nd place in the junior category + paper published in the Journal of Heuristics

EURO

### **Cambridge First Certificate in English**

**06/2017 - 06/2017**

Official B2 level certificate in English

Cambridge English

### **Baltie 2011 International Round**

**06/2011 - 06/2011**

3rd place

SGP Systems

### **Baltie 2011 National Round**

**05/2011 - 05/2011**

2nd place

SGP Systems