

# BC. JAKUB RADA

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## SKILLS

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**Languages:** Czech, English, Spanish

**Interests:** Running, Gym, Coding, Reading, Learning, Rap music

**Programming Languages:** C/C++, Julia, Python, 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:** 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.

**Korean Advanced Institute 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 consisting 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

## 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)** **06/2021 - 11/2021**  
SWEHQ | Part-time 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**

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### **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**

Bachelor Thesis combining Game Theory and Reinforcement Learning

**09/2021 - 05/2022**

FEE CTU

- Julia, LaTeX, Python

### **Evolutionary and Memetic Algorithms**

Semestral project from Evolutionary Algorithms

**09/2021 - 01/2022**

FEE CTU

- C++, Python, LaTeX

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

Semestral project in Computer Architectures

**06/2020 - 06/2020**

FEE CTU

- C

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

Semestral project in Java

**02/2020 - 05/2020**

FEE CTU

- Java, JavaFX

<b>Flashcards web app ran in Electron</b> Graduation project at High School	<b>02/2019 - 05/2019</b> GNA
<ul style="list-style-type: none"> <li>• Javascript, HTML, Python, CSS, Django</li> </ul>	
<b>Baltie 3 projects</b> Graphical programming language Baltie 3 to learn C/C++	<b>09/2008 - 09/2012</b> Extracurricular
<ul style="list-style-type: none"> <li>• Baltie 3</li> </ul>	

## ACHIEVEMENTS

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<b>Daegu International Half Marathon 2023</b> 10th place	<b>04/2023 - 04/2023</b> Daegu International Marathon
<b>Soul Marathon 2023 Relay</b> 1st place	<b>03/2023 - 03/2023</b> Seoul Marathon
<b>Comparing Exploration Methods in Partially Observable Stochastic Games</b> Dean's award for exceptional Bachelor Thesis	<b>06/2022 - 06/2022</b> FEE CTU
<b>ROADEF Challenge 2020</b> 2nd place in the junior category + paper published in the Journal of Heuristics	<b>06/2021 - 06/2021</b> EURO
<b>Cambridge First Certificate in English</b> Official B2 level certificate in English	<b>06/2017 - 06/2017</b> Cambridge English
<b>Baltie 2011 International Round</b> 3rd place	<b>06/2011 - 06/2011</b> SGP Systems
<b>Baltie 2011 National Round</b> 2nd place	<b>05/2011 - 05/2011</b> SGP Systems