# BC. JAKUB RADA

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## SKILLS

**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

**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 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

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

- International Honor Society for the Computing and Information Disciplines

## PUBLICATIONS

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

## EXPERIENCE

**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**                                     07/2020 - 06/2021
CIIRC CTU | Part-time                                    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**                                   08/2019 - 12/2019
Scalesoft | Part-time                                     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

**Solving a grid puzzle using SAT solving**                   09/2023 - 01/2024
Assignment in Logical Reasoning and Programming                        FEE CTU

- Python, PySAT

**Reconstructing 3D objects from a set of 2D images**         09/2023 - 01/2024
Semestral project in 3D Computer Vision                                FEE CTU

- Python, Matlab

**Resume / Personal portfolio webpage**                       09/2023 - 10/2023
Free-time personal project                                            Personal

- Vue.js, Typescript, HTML, CSS

**Soft Actor-Critic algorithm implementation**                06/2023 - 06/2023
Semestral project in Mathematical Foundations of Reinforcement Learning   KAIST

- Python, PyTorch

**Implementation of KAIST Educational C Compiler in Rust**    02/2023 - 06/2023
Semestral project in Compiler Design                                     KAIST

- Rust

**Developing a novel approach to Dimensionality Reduction using Graphs**    05/2023 - 06/2023
Semestral project in Graph Machine Learnign and Mining                    KAIST

- Python, PyTorch

**Double Oracle Algorithm for solving zero-sum normal-form games**    01/2023 - 02/2023
Semestral project in Julia programming language University course        FEE CTU

- Julia

**Comparing Exploration Methods in Partially Observable**     **09/2021 - 05/2022**
**Stochastic Games**     FEE CTU
Bachelor Thesis combining Game Theory and Reinforcement Learning

- Julia, LaTeX, Python

**Evolutionary and Memetic Algorithms**     **09/2021 - 01/2022**
Semestral project from Evolutionary Algorithms     FEE CTU

- C++, Python, LaTeX

**Pong game for a microcontroller**     **06/2020 - 06/2020**
Semestral project in Computer Architectures     FEE CTU

- C

**Chess Game with GUI and simple artificial player**     **02/2020 - 05/2020**
Semestral project in Java     FEE CTU

- Java, JavaFX

**Flashcards web app ran in Electron**     **02/2019 - 05/2019**
Graduation project at High School     GNA

- Javascript, HTML, Python, CSS, Django

**Baltie 3 projects**     **09/2008 - 09/2012**
Graphical programming language Baltie 3 to learn C/C++     Extracurricular

- Baltie 3

## ACHIEVEMENTS

**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**     **06/2022 - 06/2022**
**Stochastic Games**     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     EURO
Heuristics

**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