

CONTACT

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LANGUAGES

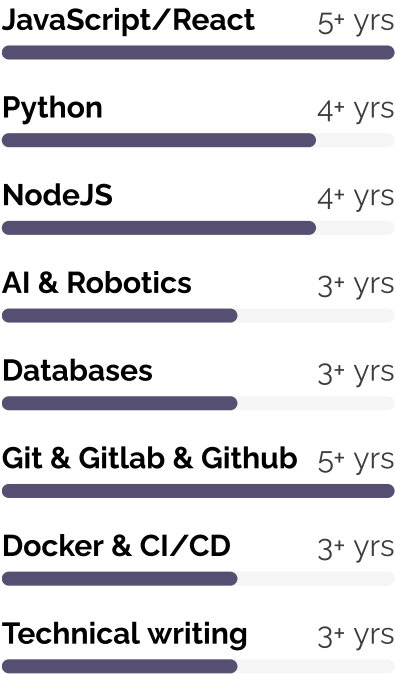
Czech Native

English Fluent

Italian Working proficiency

French Beginner

SKILLS



TOMÁŠ ROUN

I'm a software engineer with a Master's degree in Computer Science & AI. I'm interested in robotics, autonomous driving, computer vision and open-source.

WORK EXPERIENCE

Software Engineer
CERN

2021 - ongoing

Currently working on [Indico](#), an open-source event management tool made at CERN. Indico is not just the go-to event management tool at CERN but also at more than 250 institutes around the globe including the United Nations, Fermilab and many more. I am responsible for design, development, documentation & user support.

Tech: Python/Flask, JS/React, Postgres, Docker

Technical Student
CERN

2020 - 2021

Worked on the [CERN AppStore](#) - a modern multi-platform system to distribute applications from a centrally managed store. Responsible for gathering requirements, design & development.

Tech: NodeJS/Electron/Express/React, Python, Postgres

Research Intern
Smart Urban Mobility

2019 - 2020

Developed new state-of-the-art algorithms for Mobility on Demand. The main area of focus was combining statistics and discrete optimization techniques to increase the reliability of Vehicle-sharing Systems such as bike-sharing. I co-authored a [paper](#) with our results.

Tech: Python/Numpy/Scipy, Linear programming

Research Intern
Czech Institute of Informatics

2019 - 2020

Research ways of applying machine learning algorithms to speed up NP-Hard combinatorial optimization problems in the field of optimal job scheduling.

Tech: Python/Tensorflow/scikit-learn, Linear programming

EDUCATION

Master's Degree in Computer Science & AI
Czech Technical University in Prague

2018 - 2021

Graduated with distinction. In my [diploma thesis](#), I implemented an algorithm for autonomous navigation of a self-driving car for the Formula Student Driverless competition in which I competed with a team from my university.

Bachelor's Degree in Computer Science
Czech Technical University in Prague

2015 - 2018

Graduated with distinction.

HACKATHONS

Porsche Engineering Hackathon

3rd place

Programmed a self-driving RC car to stay within a given path, recognise road signs and safely stop in front of obstacles.

Valeo Hackathon

2nd place

Created a program for automatic 3D scene reconstruction and rendering of objects from LiDAR scans.

eForce Hackathon

Organizer

Preparation of a LiDAR-based assignment, evaluation & mentoring participants throughout the hackathon

VOLUNTEERING

Formula Student Team Member

2019 - 2022

eForce Driverless

Worked on a development of a self-driving racing car for the [Formula Student competition](#). My main work included autonomous navigation (SLAM), computer vision, software development and system design to ensure real-time capabilities. I also prepared technical design documents and reports to be presented to judges during the competition, organized events and hackathons and written articles published on our team website.

Tech: Stereo cameras, LiDAR & GPS sensors, Python/OpenCV/Tensorflow, GPU programming, Robot Operating System

Lecturer

2019

Czech Technical University in Prague

Taught Introduction to programming using Python at a week-long intensive course aimed at first-year university students. I was responsible for course planning, lectures and practical labs.

PUBLICATIONS

Rebalancing in Vehicle-sharing Systems with Service Availability Guarantees

2020

Conference Paper, American Control Conference

This [paper](#) presents a novel stochastic method for guaranteeing vehicle availability in Vehicle-sharing Systems. The paper was a result of my internship at Smart Urban Mobility. The described algorithm significantly outperforms current state-of-the-art techniques.

HOBBIES

I like to tinker with things - electronics, Arduinos, 3D printing. I have made lots small 3D printed gadgets of my own design including a two-wheeled RC robot. You can see some of the projects I've done on my [website](#). When I'm not programming, I'm most likely to be climbing, reading, cooking or building yet another mechanical keyboard.