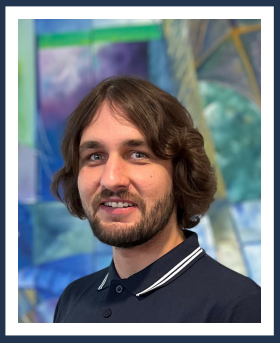


Tomas Bravenec

Researcher & SW Developer

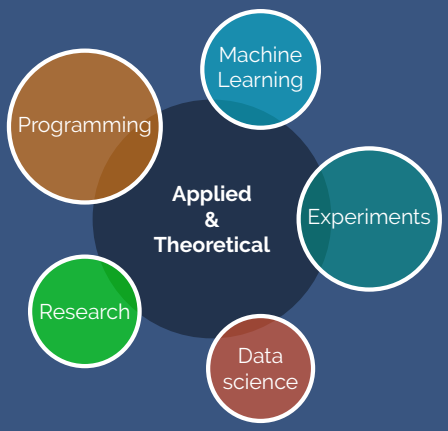
I am a dedicated professional with a double PhD, specializing in indoor positioning. My expertise spans indoor positioning, machine learning, data science, computer vision and proficient programming skills in several languages.

tbravenec@gmail.com | +420 737 354 274 | Czech Republic | /tom-bravenec

GOALS

Seeking a full-time position, where I can use my knowledge of programming languages and machine learning to drive positive change in the world.

SKILLS



TECH

- C
- Python
- Latex
- MS office
- Kotlin
- C++
- C#
- VHDL
- Matlab

CONTACT

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TomC601
Tomas Bravenec
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LANGUAGES

Czech	Mother tongue
English	Fluent
Spanish	Basic
Russian	Basic

WORK EXPERIENCE

Present – Apr 2024 — **Software Developer**
CHEP S.A. · Spain
Software developer in the Automatic Digital Inspection department. Working with Python, C++, Computer Vision etc...

Oct 2023 – Sep 2021 — **Early Stage researcher**
Institute of New Imaging Technologies · Universitat Jaume I, Spain
Early Stage researcher in **A-WEAR** project. This project was funded from the European Union's Horizon 2020 (H2020) Marie Sklodowska-Curie Innovative Training Networks H2020-MSCA-ITN-2018 call, under the Grant Agreement no 813278.

Nov 2022 – Sep 2022 — **Industrial Secondment, Researcher**
UBIK Geospatial Solutions S.L. · Spain
Focused on improving Wi-Fi based indoor positioning systems by enhancing radio maps of the environment with machine learning.

Aug 2021 – Sep 2019 — **Doctoral Researcher**
Brno University of Technology · Czech Republic
Work on use of deep learning in computer vision application. Specifically reduction of required computing resources of common convolutional neural networks, while preserving their accuracy.

Jun - Aug 2016 - 2019 — **Software Developer**
TAJMAC-ZPS a.s. · Czech Republic
Part time job (4 summers in a row) software developer, working on various applications regarding CNC machines, remote control and monitoring systems.

EDUCATION

Dec 2023 – Sep 2019 — **Joint PhD Degree**
Institute of New Imaging Technologies · Universitat Jaume I, Spain
European Union's Horizon 2020 Marie Skłodowska-Curie Actions (MSCA) Innovative Training Network/European Joint Doctorate program.
With academic secondment done at:

Brno University of Technology · Czech Republic

Dissertation: *Exploiting Wireless Communications for Localization: Beyond Fingerprinting*

Aug 2019 – Sep 2017 — **Master's Degree**
Brno University of Technology · Czech Republic
Master's degree in Electronics and Communication Technologies.
Thesis: *Computer Vision and Hand Gestures Detection and Fingers Tracking*

Aug 2017 – Sep 2014 — **Bachelor's Degree**
Brno University of Technology · Czech Republic
Bachelor's degree in Electronics and Communication Technologies.
Thesis: *Image Segmentation on GPU*

INTERESTS & EXPERTISE

Indoor Positioning | Machine Learning | Computer Vision | Optimization | Embedded Applications | Travelling | Hiking | Mountain Biking | Bouldering

TEACHING

Digital Electronics 2: Undergraduate course covering basics of embedded C and basics of git versioning system. Taught in Czech (compulsory course) and English (course in Erasmus+ mobility program).

SUPERVISIONS

Marek Sicha - Bachelor's Thesis: *Traffic sign detection in real time*

Libor Matějek - Bachelor's Thesis: *Image segmentation using machine learning*

PEER-REVIEWS

Conference	IWSSIP 2020 / 2021
Conference	ICUMT 2022
Workshop	GLOBECOM 2023
	6GMAGIC
Journal	IEEE Journal of Indoor and Seamless Positioning and Navigation
Journal	Radioengineering

ORGANIZATION

TPC	GLOBECOM 2023
Organizer	MERKUR PerFEKT Challenge 2019

PROJECTS

A-WEAR: a four year (2019-2022) H2020 Marie Sklodowska-Curie Innovative Training Network (ITN)/European Joint Doctorate (EJD) 4 bringing together five beneficiaries and 12 partner organizations from Finland, Czech Republic, Italy, Romania, and Spain.

FEWERCON a project focusing on, coexistence scenarios for 5G communication systems operated in shared frequency bands, and on an appropriate methodology for measurement and evaluation of 5G system performance. It also explored algorithms of tracking and indoor localization techniques.

PUBLICATIONS

Jun 2024 — **Detection of Room Occupancy in Smart Buildings**
Radioengineering and Navigation
Ondrej Zeleny, Tomas Fryza, **Tomas Bravenec**, Shoaib Azizi

Nov 2023 — **UJI Probes Revisited: Deeper Dive into the Dataset of Wi-Fi Probe Requests**
IEEE Journal of Indoor and Seamless Positioning and Navigation
Tomas Bravenec, Joaquin Torres-Sospedra, Michael Gould, Tomas Fryza

Sep 2023 — **Influence of Measured Radio Map Interpolation on Indoor Positioning Algorithms**
IEEE Sensors Journal
Tomas Bravenec, Michael Gould, Tomas Fryza, Joaquin Torres-Sospedra

Sep 2023 — **UJI Probes: Dataset of Wi-Fi Probe Requests**
International Conference IPIN 2023
Tomas Bravenec, Joaquin Torres-Sospedra, Michael Gould, Tomas Fryza

Apr 2023 — **Security and Reliability of Room Occupancy Detection Using Probe Requests in Smart Buildings**
International Conference MAREW 2023
Tomas Fryza, **Tomas Bravenec**, Zdenek Kohl

Sep 2022 — **Exploration of User Privacy in 802.11 Probe Requests with MAC Address Randomization Using Temporal Pattern Analysis**
International Conference on LBS 2022
Tomas Bravenec, Joaquin Torres-Sospedra, Michael Gould, Tomas Fryza

Sep 2022 — **What your wearable devices revealed about you and possibilities of non-cooperative 802.11 presence detection during your last IPIN visit**
International Conference on IPIN 2022
Tomas Bravenec, Joaquin Torres-Sospedra, Michael Gould, Tomas Fryza

May 2021 — **Received signal strength fingerprinting-based indoor location estimation employing machine learning**
MDPI Sensors Journal
Ladislav Polak, Stanislav Rozum, Martin Slanina, **Tomas Bravenec**, Tomas Fryza, Aggelos Pikrakis

Apr 2021 — **Reducing Memory Requirements of Convolutional Neural Networks for Inference at the Edge**
International Conference MAREW 2021
Tomas Bravenec, Tomas Fryza

Dec 2019 — **Multiplatform system for hand gesture recognition**
International Symposium ISSPIT 2019
Tomas Bravenec, Tomas Fryza

CERTIFICATES

Nov 2023 — **Beginning C++ Programming - From Beginner to Beyond**
Udemy

Apr 2023 — **Elements of AI: Building AI**
University of Helsinki

Apr 2023 — **Elements of AI: Introduction to AI**
University of Helsinki