Michał Barciś

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Related experience

Technology Innovation Institute — **Abu Dhabi, United Arab Emirates**
Lead Researcher — *04.2021–present*
Led a team of up to 8-people team working on aerial part of projects for the Autonomous Robotics Research Center (ARRC):

- *research and rescue* — a top-priority project for ARRC realized in collaboration with ground and marine teams; six follower drones were released from an autonomous aerial mothership and explored an environment in search for survivors.
- *nanodrone for indoor environments* — research collaboration focused on developing PULP-Dronet, an artificial neural network for indoor navigation of nanodrone. Resulted in the first place on IMAV Nanocopter Challenge at TU Delft in 2022 and multiple scientific publications. Our contributions allowed to decrease the network size, which significantly increased the inference speed.
- *communication testing* — we supported other teams with testing of various communication equipment for their project. Designed testing protocols and performed them for 4 brands of transceivers.
- *nanodrones chain for subterranean exploration* — inspired by the performance of teams on DARPA Subterranean Challenge, we decided to realize in practice our previous research on nanodrone chains for subterranean exploration. The result was a working demonstrator and a scientific publication.

University of Klagenfurt — **Klagenfurt, Austria**
Senior Scientist — *10.2017–07.2021*
Researcher in a multi-disciplinary project on 3D reconstruction using swarms of UAVs with main focus on communication. Created multiple practical demonstrators with different UAV platforms.

STX Next — **Wrocław, Poland**
Senior Python developer — *12.2016–09.2017*
Worked as a Python developer in the biggest Python software house in Europe.

The Continuum Student Research Group — **Wrocław, Poland**
Programmers' team leader — *03.2015–07.2017*
Led the team of programmers during the creation of `Aleph 1 Mars Rover` at the University of Wrocław. Its greatest success is the **second place** on the *University Rover Challenge 2017*, where it competed against over 60 robots from the whole world.

University of Wrocław — **Wrocław, Poland**
Researcher — *07.2015–10.2016*
Researcher in a speech indexing and retrieval project `Audioscope`. Main task: development of a regular-expressions based language model to be used as part of the speech recognition pipeline.

Relevant Education

University of Klagenfurt — **Klagenfurt, Austria**
PhD, Robotics — *2017–2021*
Topic: "Information Distribution in Multi-Robot Systems" with main focus on UAVs.

University of Wrocław — **Wrocław, Poland**
Master studies, Computer Science — *2015–2016*

University of Wrocław — **Wrocław, Poland**
Bachelor studies, Computer Science — *2012–2015*

Awards Highlights

IMAV Nanocopter Challenge — **TU Delft**
1st place — *2022*
Nano-drone for indoor navigation using ML.

Deep Drone Challenge — **BrigkAir/Airbus**
1st place — *2021*
Drone prototype communicating with Air Traffic Control.

University Rover Challenge — **The Mars Society**
2nd place — *2017*
Mars Rover prototype.

Professional skills

Programming: Python, C, C++, Java, JavaScript.

Technologies: ROS 2, PX4 (contributor), DJI SDK, OptiTrack, NS-3, LaTeX, Linux, Docker, Bash scripting, git, Jira.

Languages: Polish (native), English (fluent), German (basic understanding).

Additional interests

Skiing: Experienced skier and a qualified skiing instructor.

Hiking: Completed the hike around Jelenia Góra valley — 146 km in 37 hours (on foot, without a break).