Mark Horpynych

Junior Robotics and Control Systems Developer

CONTACT ME

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www.github.com/Marchell0o0

EDUCATION

Cybernetics and Robotics

CTU in Prague, Faculty of Electrical Engineering

2022 - 2024

SKILLS

- Programming (C, C++, Python, VHDL)
- Git
- Docker
- Qt Creator
- Fusion 360
- MATLAB
- Simulink
- Embedded Programming (Arduino, ESP32, PIC18(L)F27/47K4)
- Advanced Mathematics
- Theoretical Knowledge of Control and Signal theory

LANGUAGES

- Ukrainian (Native)
- English (Advanced)
- Russian (Advanced)
- Czech (Upper-Intermediate)

PROFILE

Junior Robotics and Systems Programmer with a strong foundation in Cybernetics and Robotics from CTU, Prague. I am passionate about developing and optimizing algorithms for robotics and embedded systems. My university projects have given me practical experience in programming and control systems. Would love to apply my academic knowledge to real-world challenges, I am particularly interested in mobile robotics, control theory, and machine learning.

WORK EXPERIENCE

Teacher/Tutor

BrainSteps 10/2023 - 01/2024

At BrainSteps, I focused on developing and conducting group courses, specifically in programming and linear algebra, to assist foreign students transitioning to university life in the Czech Republic. I also provided one-on-one tutoring, helping students with academic challenges in these subjects. I prepared students for the demanding first year of university studies, creating a smooth academic transition and enhancing their understanding of these subjects.

Junior Full-Stack Developer

CIIRC (Czech Institute of Informatics, Robotics, and Cybernetics) 07/2024 - 09/2024

At CIIRC, I developed an application designed to test cognitive abilities of test participants. I worked on design and implementation of the database model, creating a RESTful API using Python Flask and MySQL, as well as developing the frontend of the application using Next.js 14 and React.

PROJECTS

All the sources are available on my Github, or are linked on it.

- **Software for a mobile turtle robot**

  Python code that tries to solve, localization, mapping, pathfinding, path tracking and visualization of a turtle robot and it's environment, that executes a task described by a university subject. With an extensive Latex documentation.

- **Fractal Visualization**

  Program written in C, that uses multi-threading, pipe communication, and SDL2 to compute and visualize Julia set fractals, with adjustable parameters.

- **Backie**

  C++, advanced backup manager with GUI made in Qt Creator, for easy planning, managing, and execution of incremental backups.

- **How to make (almost) anything, mini-projects**

  MIT inspired subject, that focused on creating a small project every week, with themes in production e. g. 3D printing, laser cutting, CNC machining, embedded programming, silicon molding and casting and so on. You can find all of those projects documented on my personal website made specifically for this subject, link to which you can find on my Github.