

# Ioan Alexandru Popa

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## EDUCATION

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Politehnica University of Bucharest, **Bachelor in Computer Science**  Oct 2022 - Jul 2026

- Relevant Coursework: Computer programming (**C** & **Python**; **Assembly**; **Rust**), Data structures and algorithms, Numerical methods (**Octave**), Object-oriented programming (**Java**), Operating systems, Algorithm design, Communication protocols, Local computer networks, Introduction in cybersecurity
- **Cumulative grades:** 9.39/10

## PROJECTS

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**Personal dotfiles management system** ([GitHub link](#))  Mar 2021 - Oct 2024

- Created a GitHub repository with configuration files for select programs, like **vim**, **zsh**, VSCode.
- Implemented **shell scripts** for **5** distro families that install a couple apps and configure a freshly installed **Linux** system with favourite configurations, and a **Windows** script that does this too.

**emscripten-functions** ([GitHub link](#))  Aug 2023 - Sep 2024

- Implemented raw **Rust** bindings for **emscripten** system functions. Emscripten is a compiler toolchain that allows C & C++ code to be ran on web pages using **WASM**.
- Built Rust-friendly wrappers for **29** emscripten-specific functions.
- Over **2800** downloads on [crates.io](#) for the [emscripten-functions](#) crate (the Rust-friendly wrappers), and over **2600** for [emscripten-functions-sys](#) (the raw Rust bindings).

**ThemeChanger** ([GitHub link](#))  Aug 2021 - Jul 2024

- Designed a Linux app in **Python** and **GTK3** that lets the user modify the mouse cursor, application icon, and widget themes and settings of **4** theme frameworks, even for unthemable libadwaita apps.
- Implemented live theme reloading using **6** desktop environment-specific mechanisms.
- Built a mechanism of showing instantly GTK3 theme and CSS changes in the app.

**Magnetic field mapping**  Nov 2023 - Jan 2024

- Designed with **2** teammates a system of collecting magnetic field data from a ICM29048 magnetic field sensor connected to a Raspberry Pi Pico W using **I2C**.
- Implemented a solution that sends the data to a computer that then processes the data into magnetic field mapping graphs, given user input about where the sensor currently is, using **Python** and **tk**.

## VOLUNTEER ACTIVITIES

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**Undergraduate teaching assistant**, Assembly programming  Feb 2024 - Jun 2024

- Held a weekly laboratory session for over **10** students that shows them the basics of **x86 Assembly**.
- Made a **Docker** image for lecture demos.

## SKILLS

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- **Intermediate:** C, C++, JavaScript, Linux & shell scripting, Python, Rust, TypeScript
- **Basic:** CSS, C#, Docker, Emscripten, F#, Git, Go, Godot Engine, GTK3, HTML, Java,  $\text{\LaTeX}$ , Lua, Matlab/Octave, Racket/Scheme, React, SQL, Svelte, x86 Assembly