

# IOAN ALEXANDRU ȚIFUI

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## WORK EXPERIENCE

### Quantitative Technology Intern

#### Qube Research & Technology

June - December 2025

London

- 6 months placement in the market access team, working with C/C++ , Python and Linux .

### Security Research Intern

#### ETH Zürich

April - May 2025

Zürich

- Internship in the COMSEC lab, expanding on my Master's Thesis, focused on transient execution attacks on modern ARM chips.

### Software Engineering Intern

#### Daedalean AI

July - December 2023

Zürich

- Worked on driver code for Vyper (Daedalean's custom OS to be deployed on self-piloting aircrafts)
- Extended QEMU to enable emulation of various FPGA components

### Software Engineering Intern

#### Meta

Summer 2022

London

- Worked on fashion-related problems with direct applications in commerce and ads, using different ML models, as part of the AI Creative team

### Software Engineering Intern

#### Zergrush SRL

Summer 2021

Bucharest

- Developed a VPN provider app and an email server , and integrated them within two separate WHMCS modules

## ACHIEVEMENTS

### Bronze Medal

#### National Olympiad in Informatics

2017, 2018, 2019

### Scientific Committee Member

#### International Olympiad in Informatics in Teams (IOIT)

2021

### Scientific Committee Member

#### MatelInfoUB - Admission contest organized by the University of Bucharest

2024

## EDUCATION

### MSc in Cybersecurity

#### ETH Zürich and EPFL

September 2022 - March 2025

### Bachelor of Computer Science

#### University of Bucharest

October 2019 - July 2022

## HIGHLIGHTS & SKILLS

### Low-level programming

Experience with multiple assembly flavors (ARM, x86, RISC-V etc) and OS internals.

### Algorithm Design

Able to quickly design and implement efficient algorithms & datastructures in multiple programming languages (C/C++, Python, JS etc).

### Broad Programming Knowledge

Familiar with many different technologies (OS, Web, Databases, Security etc).

## PROJECTS

### Custom Operating System

2024

ETH Zürich

Built a custom micro-kernel (including memory management, IPC, process management, networking etc.) based on Barrelfish

### Side Channel Attacks - Apple M1

2023

EPFL Lausanne

Investigated side-channel attacks on Apple M1 caused by data-dependent timing. Identified two potential vulnerabilities ( UDIV and SDIV ), and confirmed that the rest of the ISA is not vulnerable

### ROP Buffer Overflow Exploitation Tool for RISC-V

2022

University of Bucharest

Built a compiler from

Brainfuck to RISC-V ROP chains

using libc gadgets, proving that ROP is Turing Complete, using a custom tool I wrote.