

# THEODOR-PIERRE MOROIANU

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## WORK EXPERIENCE

### Quantitative Developer

#### Quadrature Capital

📅 Jan 2025 - present 📍 London, UK  
Quantitative developer in the market data team.

### Committee Member, MatelInfoUB Admission Contest

#### University of Bucharest

📅 June 2022 - present 📍 Bucharest, Romania  
Key member of the scientific and organization committee of MatelInfoUB, a yearly recurring admission contest organized by the University of Bucharest.

### Teaching Assistant

#### ETH Zürich

📅 Sept 2023 – Dec 2023 📍 Zürich, Switzerland  
Teaching assistant for the Algorithms Lab and Network Security core courses, due to my outstanding results in previous iterations. My role involved preparing and holding weekly exercise sessions as well as the evaluation of students' progress.

### Quantitative Developer Intern

#### Quadrature Capital

📅 July 2023 – Sept 2023 📍 London, UK  
Added Rust support to the internal market data pipeline, and implemented a full-stack real-time order book explorer using Rust, Web Assembly, HTML/CSS and React.

### Software Engineer Intern

#### Jane Street Capital

📅 July 2022 – Sept 2022 📍 London, UK  
Implemented a customizable, log-based alert system listening for errors during the processing pipeline of corporate actions, in OCaml.

### Software Engineer Intern

#### Citadel LLC

📅 June 2021 – Aug 2021 📍 London, UK  
Implemented a full-stack application displaying breaks occurring during the automated post-trading reconciliation process, using Typescript, React and GraphQL.

### Software Engineer Intern

#### Google LLC

📅 July 2020 – Sept 2020 📍 Zürich, Switzerland  
Implemented the OOXML (Microsoft Office format) parser for an internal tool used in the analysis of malicious documents sent over Google services, using C++.

## EDUCATION

### MSc in Cyber Security

#### ETH Zürich

- 📅 Sept 2022 – Dec 2024
- Joint degree with EPF Lausanne.
  - Major in Cyber Security and minor in Data Management Systems.
  - Recipient of the ESOP scholarship, awarded to 5 people across the entire CS department.
  - Graduated *summa cum laude*.

### Bachelor of Computer Science

#### University Of Bucharest

- 📅 Oct 2019 – June 2022
- Valedictorian of the CS department.
  - GPA 10.0 out of 10.0.
  - Part of a excellence student programme, with more in-depth courses.

### Baccalaureate

#### International Computer High School of Bucharest

- 📅 Sept 2015 – June 2019
- Part of a special group focused towards competitive programming.
  - My high-school has one of the highest number of international science Olympiads medals in the world.
  - High-school GPA of 9.99 out of 10.0.

## SKILLS

- Advanced in C/C++ Python SQL Data Structures Algorithms
- Experience with Rust OCaml Haskell Java JS/TS HTML/CSS React Linux Git ML w/ PyTorch Docker/Podman Computer Architecture Computer Networks

## Machine Learning Research Intern

### Bitdefender

📅 July 2018 – Aug 2018

📍 Bucharest, Romania

Five week internship in the ML department, where I developed a program displaying the saliency maps of various neural networks using `PyTorch`.

## Competitive Programming Teacher

### Bucharest Ultrapformance in Informatics Center

📅 Oct 2019 – June 2022

📍 Bucharest, Romania

Teacher of `algorithms` and `C++` courses (3h / week) for high-school students engaged in national and international competitive programming competitions.

## AWARDS

### 🥈 Silver Medal – ICPC World Finals

📅 Oct 2021

📍 Moscow, Russia

My team of three won a Silver Medal (8<sup>th</sup> place) at the International Collegiate Programming Contest World Finals, representing the University of Bucharest.

### 🏆 First Place – ICPC Regional Contests

📅 2019, 2024

📍 Romania, France

Ranked 1<sup>st</sup> in the South-Eastern, respectively the South-Western European regional ICPC contests, representing the University of Bucharest and ETH Zürich.

### 🌟 Finalist – ICPC World Finals

📅 2021, 2023, 2024

📍 Russia, Egypt, Kazakhstan

One of the few competitive programmers to qualify to 3 different ICPC World finals, representing ETH Zürich and the University of Bucharest in Moscow, Luxor and Astana. Won a silver medal and a *Highest Honors* distinction.

### 🥈 Silver Medal – International Olympiad in Informatics

📅 August 2019

📍 Baku, Azerbaijan

Silver medal at the IOI, the most prestigious Computer Science contest for high-school students.

### 🥇 Gold Medal – Central European Olympiad in Informatics

📅 July 2019

📍 Bratislava, Slovakia

4<sup>th</sup> place at the Central-European high-school Computer Science Olympiad.

### 🥇 Gold Medal – Balkan Olympiad in Informatics

📅 August 2018

📍 Timișoara, Romania

2<sup>nd</sup> place at the Balkan Computer Science Olympiad.

### 🏆 First Place – Romanian National Informatics Olympiad

📅 2018 and 2019

📍 Constanța and Suceava, Romania

Twice in a row winner of the Romanian National Olympiad in Informatics, during my last 2 years of high-school.

### 🥉 Third Place – InsomniaHack

📅 March 2023

📍 Lausanne, Switzerland

Third place on the academic leaderboard of the largest Swiss CTF contest, representing EPFL (the Federal University of Lausanne).

## LANGUAGES

🇫🇷 French – Native

🇷🇴 Romanian – Native

🇬🇧 English – Fluent (C2)

🇩🇪 German – Beginner

## PORTOFOLIO

### MatelInfoUB Admission Contest

[github.com/MatelInfo-UB](https://github.com/MatelInfo-UB)

I created and maintain an online repository containing tasks (statements, sources, tests and solutions) created for the *MatelInfoUB* university admission contest, as a member of the organizational committee.

I also created an online platform where students can simulate the contest.

### ReplBug – DBMS Bug Replication Tool

[github.com/theodormoroianu/ReplBug](https://github.com/theodormoroianu/ReplBug)

Created a CLI tool used for automatically replicating DBMS bugs and starting custom DBMS servers. The tool is addressed to DBMS researchers, and is built using `Python` and

`Podman`.

### SmartForms – AI-Powered Form Parser

[github.com/TeamUnibuc/SmartForms](https://github.com/TeamUnibuc/SmartForms)

Wrote an app exposing an `API` allowing users to create custom forms and questionnaires. The app is then able to digitize scans of filled questionnaires into an Excel-compatible format, using `Computer Vision`.

### SSChat – CLI Chat App

[github.com/Unibuc4Ever/SScHat](https://github.com/Unibuc4Ever/SScHat)

Wrote a userspace library in `C` for channel-based `IPC` (inter-process communication), using unix `FIFO` pipes. To then showcase the library, I built an app exposing a `CLI` interface allowing users to enter chat rooms and send/receive messages.

### Chess Visualizer App

[github.com/theodormoroianu/Interactive-Chess-Visualizer](https://github.com/theodormoroianu/Interactive-Chess-Visualizer)

My team of 3 built a web application interactively displaying various chess statistics such as common openings or the ELO evolution of players, using `React`, `D3.js` and `Flask`.