

# Florian Robert Usurelu

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## WORK EXPERIENCE

- **Software Engineer AMAZON – “6 months internship” in 2021**
  - ❖ Extended an existing project which automatized personalized document validation - implemented in Java and JavaScript, created unit and integration tests, discussed the features with the client, and merged in production
  - ❖ Worked on a flow management platform for external clients – worked on the backend in TypeScript
  - ❖ Used the AWS stack (S3 bucket, Cloud Formation, Cloud Watch, SageMaker) and internal cloud desktop and cloud development kit

## EDUCATION

- **University of Bucharest**, Bachelor’s in Computer Science, 2019-2022
  - ❖ 5<sup>th</sup> out of 1200 at the admission exam, GPA above 4.5/5

## HONORS AND AWARDS

- **3<sup>rd</sup> place at the South-East European Regional Contest, International Collegiate Programming Contest (ICPC) 2020-2021 and qualified for the World Final in Bangladesh (will represent Romania at the equivalent of the Olympiad for students)**
- **1<sup>st</sup> place at Romanian International Collegiate Programming Contest (ICPC, country stage) 2020-2021**
- **80<sup>th</sup> team out of 9003 at Google Hashcode 2021 (the best Romanian team)**

## PROJECTS

- **Chess Game:** Developed in a team of 3, a chess game (1vs1 and 1vsComputer). We used: **OOP in C++ (multiple inheritances, design patterns)**, SFML (for interface) and **Python** for Stockfish. (worked both on **backend and frontend**)
- **Hardware Game:** developed a game using Arduino (including other hardware components: joystick, button, resistors, 8x8 led matrix, LCD, 3D printed case, etc..); had to optimize the SRAM memory, for example for maintaining a 24x24 matrix, I used a vector of 24 long variables (long for Arduino programming has 3 bytes, meaning 24 bits) and using binary operations; developed the menu using formal languages and automata theory
- **Genetics algorithms project:** had to create multiple maps with high difficulty for an application; the map was a bidimensional structure with walls and my solution was to linearize that by mapping and creating a permutation with all of those; the map had the first K from the permutation (after undoing the mapping) activated so the problem resumes to encoding a permutation into a chromosome; this can be made by shifting elements with some values from left to right having the identity permutation at first; the chromosome is made by blocks of 8 bits for each shift; the fitness function is based on game theory and math observations

## ADDITIONAL INFORMATION

- **Member of scientific and organizational committees of**
  - ❖ **Selection camp for the team which represented Romania at International Olympiad in Informatics (2020) and continued to be a volunteer in other rounds (2021)**
  - ❖ **International Programming Contest “AGM” 2019-2022**
  - ❖ **“FMI NoStress” National Programming Contest, organized by the University of Bucharest** - coordinated the 9<sup>th</sup> and 10<sup>th</sup> editions. Managed to achieve the biggest number of participants of all of the editions (256 in the 9<sup>th</sup> one).
- **Founder of iGorj, 2018-2022**
  - ❖ **iGorj** was an organization that implemented presentations (TedX-like) in cryptography, artificial intelligence, 3D, blockchain and about finding the university that fits you; during the pandemic situation we organized mentorships

- ❖ Impacted more than 500 students and the project involved throughout the years up to 50 volunteers
- **Teaching coordinator, 2017-2021**
  - ❖ Two of my students qualified for the national stage of the Olympiad, receiving medals. Another is one of my faculty colleagues (helped him to be 11<sup>th</sup> after the admission exam)
  - ❖ Been Undergraduate Teaching Assistant for the “Competitive Programming” course of my Faculty that prepare the students for interviews and both national and international competitions
- **Start-up mentorships and programs**
  - ❖ Qualified in the semi-finals of the biggest start-up program in Romania with months of mentorships (Innovation Labs). Learned about coordinating a team, funding, developing, evaluating, scaling and launching a product (the one with which we participated). Participated in Y-Combinator live and offline courses (2021, 2022).

## **SKILLS**

- **Machine Learning** (Udemy course 40h and University Course - developed a model to classify a computer tomography; internal courses while working at Amazon in **Tabular Data**, **Computer Vision** and **Natural Language Processing**, also worked with these at personal and university projects)
- **Programming languages:** 7+ years in **C++** (competitive programming, OOP projects), 3+ years in **Python** (university assignments), and 3+ years in **C#** (personal projects), 1 year in **Java** (working at Amazon and at faculty), **C** (university assignments)
- Familiar with: GIT, JavaScript, CSS, HTML, Haskell, Mips, ASP.NET, Flutter, PHP, Java, genetic algorithms, React, databases, 3D modeling and printing in Autodesk Fusion 360 and PrusaSlicer (optional university course), **RPA development using UiPath’s platform** (optional university course)

## **HOBBIES**

- **Reading** about 30-40 books yearly (economy, self-development, psychology, etc)  
<https://www.usu-the-man.com/books.html>
- **Learning from those around:** traveled in all 42 counties in Romania and did vlogs helped by 100 friends all around the country. Used graph algorithms and APIs for distances to optimize the transportation costs  
[https://www.youtube.com/channel/UCxxGI5EFX09kNY\\_E4tOXCvg](https://www.youtube.com/channel/UCxxGI5EFX09kNY_E4tOXCvg)