

# Rares Mihalache

raresmihalache.github.io

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Summary: Highly motivated developer, interested in everything that relates to technology, especially embedded systems, web and game development. Eager to learn new technologies and find solutions to all kinds of problems.

## LINKS

Github:// [raresmihalache](#)

LinkedIn:// [raresmihalache](#)

## SKILLS

### PROGRAMMING

Proficient with:

- Languages: C, Java, Python
- Frameworks (BE): Spring
- Version Control: Git
- DBMS: MySQL, PostgreSQL

Beginner:

- Languages: JavaScript, C++
- Frameworks (FE): Bootstrap

Currently Learning:

- Frameworks (BE): Django
- Frameworks (FE): React

### OTHERS:

- Data Structures
- Algorithms
- Linux
- Regex
- HTML
- CSS

## EDUCATION

### TECHNICAL UNIVERSITY OF CLUJ-NAPOCA

BACHELOR IN COMPUTER SCIENCE

2019 - 2023 (expected)

Cluj-Napoca, Romania

### "UNIREA" NATIONAL COLLEGE

HIGH SCHOOL DIPLOMA

2015-2019

Targu-Mures, Romania

## WORK EXPERIENCE

### SOFTWARE ENGINEER | ROBERT BOSCH (JULY 2022 - PRESENT)

- Created and implemented a system that detects objects in the proximity of the vehicle, using ultrasonic sensors.
- Developed a GUI app using Python (PyQt5) and other third party libraries for analysing signals retrieved from the ultrasonic sensors.

## PROJECTS

### TOWN HALL APPLICATION | OPEN SOURCE APPLICATION

- Designed a system used by town halls for issuing documents.
- Two actors: admin and client. Admin can perform CRUD operations. Each client can have multiple houses. For each house he can request some type of documents.
- This application was built using Layered architecture.
- Used Java Reflection to get all fields of an entity and store them in tables' headers.
- Technologies used: Java, JPA, Hibernate, MySQL, Git
- Link: <https://raresmihalache.github.io/TownHall>

### POLYNOMIAL CALCULATOR | OPEN SOURCE APPLICATION

- Open Source Application based on calculating operations with polynomials. It is an OOP based project.
- The app consists of a GUI designed with Java Swing and the logic follows MVC architectural pattern. The user must give one or two polynomials, depending on the operation he wants to perform, press a button and the result is given in a text-field.
- Technologies: Java, Regex, Git
- Link: <https://raresmihalache.github.io/PolynomialCalculator>

### ATM - ARDUINO MEGA 2560

- Designed an ATM using multiple components (motors, RFID card reader, H-Bridges, etc.)
- Used SPI protocol to communicate between microcontroller and card reader. Multiple RFID 13.56 MHz cards have been used to write data on each card.
- Assigned specific functionality for each push button on the breadboard. When a button is pressed, an ISR is called. A button may have multiple effects, depending on the state of the machine.
- Link: [https://github.com/RaresMihalache/ATM\\_arduino](https://github.com/RaresMihalache/ATM_arduino)
- Demo: <https://www.youtube.com/atm>

### FOOD DELIVERY MANAGEMENT SYSTEM | OPEN SOURCE APPLICATION

- Designed a delivery management system for a catering company.
- Implemented CRUD operations for users, menu items and orders.
- Defined 3 types of users (actors): employee, client and admin. They all have certain capabilities.
- Persisted data in memory and secured it using serialization. By future system executions, this data will be available.
- Implemented GUI using JavaFX and Swing.
- Link: <https://github.com/RaresMihalache/Food-Delivery-Management-System>