MICHELE RIGHI

Computer Engineer Graduate with 7+ years of experience in coding and software engineering. I'm passionate about open source and game development, proficient in a variety of libraries and frameworks, and I love learning new stuff. In my free time I enjoy developing projects and publish them on GitHub.

CONTACT

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SKILLS

Programming

C	●●●●●
Java	●●●●●
SQL	●●●○○
Bash	●●●●○
HTML/CSS	●●●●○
JavaScript	●●●○○
C#	●●●●○
Dart	●●●●○
Python	●●●○○
C++	●●●○○
Go	●●●○○
Kotlin	●●●○○
Prolog	●●○○○

Operating Systems

Windows	●●●●●
Linux	●●●●○

Software, Frameworks & Tools

Flutter	●●●●●
JavaFX	●●●●●
SDL2	●●●●●
Unity	●●●●○
Blender	●●●○○
Git, GitHub	●●●●○
Gradle	●●●●○
Docker	●●●●○
Kubernetes	●●●○○
Microsoft Azure	●●●○○
Microsoft 365	●●●●○

Languages

Italian	●●●●●
English	●●●●○
French	●●○○○

CERTIFICATES

IELTS Academic 7.0
Unity Essentials
DataCamp Python Fundamentals

🎓 EDUCATION

2021/09 - 2024/03
📍 Alma Mater Studiorum, University of Bologna, Italy

Master of Computer Engineering

Thesis: "Evolving and Scaling Enterprise Business Applications and Middleware based on Microservices: the SCM Use Case". Final grade: 110L/110

2017/09 - 2021/03
📍 Alma Mater Studiorum, University of Bologna, Italy

Bachelor of Computer Engineering

Thesis: "Design of Applications and Multiplayer Games on Unity DOTS Architecture". 91/110

⚙ WORK HISTORY

2023/10 - 2024/03
📍 SCM Group SpA - Rimini, Italy

Full Stack Intern

Microservices and API management: migration of the API gateway for the IoT platform.

2016 - 2020
📍 PM Spade - Republic of San Marino

Sales clerk & cashier

Sales clerk in light armory shop (small family business).

💻 PROJECTS HIGHLIGHTS

2022/10 - present
📄 Innovation and Project Management M

Pack-a-Punch: **Moddy**

Moddy is a modular packaging box born to meet the needs of the distribution of humanitarian aid. Its modules can be broken down to create objects for various (re)uses.

2022/08 - 2023/04
📄 Software Systems Engineering M

Team BCR: **WasteService**

WasteService is a distributed and heterogeneous system for a differentiated waste-disposal service. We worked in a team of 3, following Scrum Agile methodology.
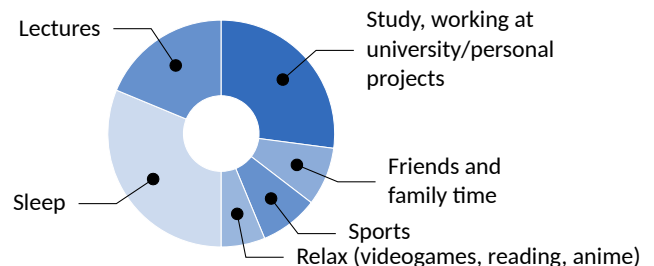
ACHIEVEMENTS, HONOURS AND AWARDS

- 🏆 Our project Moddy won (classified 1st out of 14) the **Innovation and Project Management Competition 2022**
- 🏆 Our project Moddy was selected (classified 19th out of 97 emerging ideas) for the **Call for Startup 2023**

GENERAL SKILLS

Problem solving · Creativity · Eye for detail · Teamwork · Agile scrum · Design patterns · Design principles · DevOps

A COMMON DAY OF MY LIFE

Lectures · Study, working at university/personal projects · Friends and family time · Sports · Relax (videogames, reading, anime) · Sleep

ALL PROJECTS

MSc Thesis SCM API Gateway

📅 2023/10 - 2024/03
📑 Mobile Systems M
🔗 SCM Digital Services

Internship project at SCM Group S.p.A., consisting in the selection, configuration and migration of the **API gateway**. This allows to access and utilize digital services offered by the IoT platform of SCM.

| Kong API Gateway | Microservices | Kubernetes | Docker |

| API Management | Google Cloud | Jenkins | ArgoCD | IoT |

Computer Graphics Lab

📅 2023/03 - 2023/10
📑 Principles Of Computer Graphics M
🔗 GitHub Repository

7 projects covering various fundamental aspects of **computer graphics**, both 2D and 3D, carried out in preparation for the Computer Graphics Fundamentals exam.

| Computer Graphics | Pipeline-Based Rendering | Ray-Tracing |

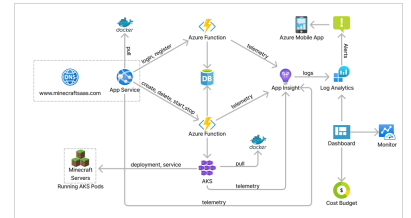| C/C++ | OpenGL | Blender |

Minecraft SaaS

📅 2023/05 - 2023/07
📑 Scalable and Reliable Services M
🔗 GitHub Repository

Minecraft Software as a Service (SaaS) is a cloud-based hosting service for Minecraft servers, powered by **Microsoft Azure** and **Kubernetes**.

| Scalability | Reliability | DevSecOps | Microservices |

| Microsoft Azure | Kubernetes | C# | ASP.NET | Next.js |

Punchline!

📅 2023/04 - 2023/05
🔗 GitHub Repository
🔗 LudumDare 53 entry

Punchline! is a game about an amateur comedian that tries to tell his best joke (delivery of a punchline) while dealing with a particularly difficult audience. We made it for the *LudumDare53* game jam, in **72 hours**, about the theme "delivery", and we used only **assets made by our team**.

| Game jam | Blender | Unity | C# |

Pack-a-Punch: Moddy

📅 2022/10 - present
📑 Innovation and Project Management M
🔗 GitHub Repository
🔗 LinkTree

Moddy is a modular packaging box born to meet the needs of the distribution of humanitarian aid. Its modules can be broken down to create utility objects, making the box **reusable**. The project includes a prototype of an application used to build boxes and track inventory.

| Innovation | Startup | Business plan | Unity | C# |

Team BCR: WasteService

📅 2022/08 - 2023/04
📑 Software Systems Engineering M
🔗 GitHub Repository
🔗 Demo Video

WasteService is a **distributed and heterogeneous system** for a differentiated waste-disposal service.

| Agile SCRUM | Domain Specific Languages | Raspberry Pi4 |

| Design Patterns | Design Principles | Java | Spring Boot |

| JavaFX | Kotlin | Flutter | Python | C | MQTT | CoAP |

Poké-Pi-Dex

📅 2021/07 - 2021/12
📑 Digital Systems M
🔗 GitHub Repository
🔗 Presentation Video

Poké-Pi-Dex is device that emulates a Pokédex: it can classify Pokémon from the first generation through a picture. It runs on a **Raspberry Pi4** with a **picamera** and other components attached, and we also made a fancy cardboard case to fit it in.

| Deep learning | Computer vision | CNN | Raspberry Pi4 |

| Python | Keras | OpenCV | Tensorflow | Tkinter |

Gionnino9000: Tavoletta

📅 2022/04 - 2022/05
📄 Foundations Of Artificial Intelligence M
🔗 GitHub Repository

Tavoletta is an AI player that can play the boardgame *Tablut* with *Ashton's rules*. We implemeneted it for the AI Tablut Challenge 2022.

| Java | Artificial Intelligence | MinMax | Alpha-Beta pruning |

| Iterative deepening |

Tablut GUI Client

📅 2022/12 - 2022/12
🔗 GitHub Repository

Tablut GUI Client is a **JavaFX** application to play the boardgame Tablut using a graphical interface. The project was made as an extension to the program provided by the professor, which only had the CLI version.

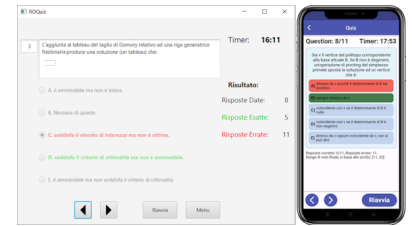| Java | JavaFX | Multiplayer | TCP | Client-server |
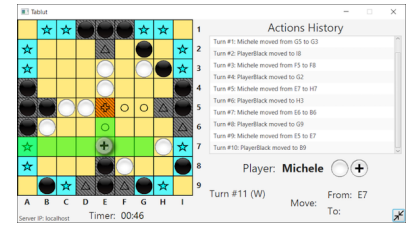
ROQuiz

📅 2021/07 - present
📄 Operations Research M
🔗 GitHub Repository

ROQuiz is a graphical quiz application I made to help me and my university colleagues revising the theory of the course *Operations Research M*.

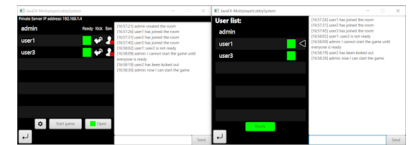| Java | JavaFX | Flutter | Dart | 900+ downloads |

JFX Multiplayer Lobby System

📅 2021/08 - 2022/09
🔗 GitHub Repository

JavaFX Multiplayer Lobby System is a **JavaFX** application that allows users to create and join lobbies, through **TCP sockets** and **multithreading**. I made it in order to implement the multiplayer gamemode in Cluedo.

| Java | JavaFX | Multiplayer | TCP | Multithreading |

SDL2 Controller Tester

📅 2021/06 - 2021/06
🔗 GitHub Repository
🔗 Demo Video

SDL2 Controller Tester is a small CLI application I made to test my PlayStation3 controller. It can test any controller that the system recognize and logs its various inputs (connection and disconnection included) and haptic vibration.

| C | SDL2 |

Unity DOTS BSc Thesis

📅 2020/11 - 2021/03
📄 Web Technologies T
🔗 GitHub Repository

Project I made for my BSc degree thesis about **Unity Data-Oriented Technology Stack** (DOTS) architecture. The goal was to analyze the new data-oriented layout provided by the ECS model and create a multiplayer game prototype based on DOTS.

| Unity DOTS | C# | Data-oriented | ECS model | Netcode |

Cluedo

📅 2020/04 - 2020/06
📄 Software Engineering T
🔗 GitHub Repository

Cluedo is a prototype of a graphical application to play the boardgame Cluedo. Given the limited time, we didn't complete the gameplay part, which was left with basic functionalities to show a demo play.

| Java | JavaFX | MVC pattern | Waterfall model | UML |