# Manuel Martínez

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## EDUCATION

**Jaume I University** — Castellón, Spain
*Bachelor of Engineering in Computer Engineering* — *2020 - 2024*
- Mobility program at Sejong University, Seoul, South Korea (2023-2024)
- Award for Academic Excellence (2024)

**Jaume I University** — Castellón, Spain
*Bachelor of Engineering in Computational Mathematics* — *2022 - Present*

## EXPERIENCE

**Full-Stack Developer** — June 2024 – Aug 2024
*Ambimetrics* — *Castellón, Spain*
- Continued development of a multi-user web platform for strategy game campaign management.
- Led the design and development of a prototype for battery registration compliance with new EU regulations.
- Implemented user roles and permissions to handle manufacturer, regulator, and public data access.
- Developed a secure system leveraging blockchain to ensure data integrity and traceability.
- Designed and built a scalable backend using Python and Web2Py, integrating SQL databases.
- Collaborated with stakeholders to refine requirements and ensure regulatory compliance.

**Software Developer Intern** — Feb 2024 – June 2024
*Ambimetrics* — *Castellón, Spain*
- Developed a multi-user web application for strategy game players to manage campaigns remotely.
- Designed and implemented a relational database to store campaign data and user interactions.
- Followed Agile methodologies (Scrum/Kanban) using JIRA for project management.
- Implemented the backend using Python and Web2Py, with SQLite for data storage.
- Designed and executed a deployment process for the application.
- Performed validation and real-world testing to ensure system functionality.
- Engaged in requirement gathering, planning, and estimation of development efforts.

## PROJECTS

**Spotify to YouTube Playlist Converter** | *Python, Spotipy, Google APIs, FFmpeg*
- Developed an automation tool that converts Spotify playlists to YouTube playlists, with an option to download them.
- Utilized Spotify Web API via Spotipy to fetch playlist data and search for equivalent tracks on YouTube.
- Integrated Google APIs to automate YouTube playlist creation and video management.
- Implemented FFmpeg to allow users to download and save the converted playlists as local audio files.

**Requiem of the Unseen** | *Unity, C#, 2D*
- Designed and developed a Lovecraftian metroidvania with atmospheric world-building and intricate level design.
- Implemented core gameplay mechanics including movement, combat, and puzzle-solving.
- Created immersive visuals and sound design to enhance player experience.

**DynaHex: A Physics Engine** | *C++, Game Physics, RigidBody, Collision Detection*
- Developed a custom C++ physics engine inspired by Ian Millington's "Game Physics Engine Development."
- Implemented rigid body dynamics, collision detection, and response mechanics.
- Optimized physics calculations for real-time applications in game development.

**Behavior Trees for AI** | *Unity, C#, AI*
- Designed an AI system using Behavior Trees to create adaptive and intelligent NPCs in Unity.
- Implemented real-time decision-making based on environmental factors and game logic.
- Optimized AI behaviors for performance, ensuring smooth gameplay experiences.

## TECHNICAL SKILLS

**Programming Languages**: Java, Python, C#, C/C++, SQL (PostgreSQL, SQLite), JavaScript, HTML/CSS, R
**Frameworks & Libraries**: Spring Boot, Web2py, Quarkus, pandas, NumPy, Matplotlib
**Developer Tools**: VS Code, Visual Studio, PyCharm, IntelliJ, Eclipse, Unity
**Version Control**: Git, GitHub, GitLab, Subversion