

Manuel Pedro

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Location: Copenhagen, Denmark

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MSC COMPUTER SCIENCE STUDENT | AI & HIGH-PERFORMANCE COMPUTING

I am an MSc student in Computer Science and Engineering at DTU, with experience in **Python, C++ and Linux**. I have worked on visualisation for cosmic-string simulations, reinforcement learning and networking research. I enjoy understanding how systems work and finding practical ways to make them more efficient

TECHNICAL SKILLS

Languages	: Python, C++, C, Java, JavaScript, SQL
Systems	: Linux, OpenWrt, OpenMP, MPI, Docker
Frameworks	: ASP.NET Core, SPFx, FastAPI, PyTorch, Gymnasium
Libraries	: NumPy, pandas, scikit-learn
Tools	: Git, GitHub Actions, Wireshark, iPerf3, HILA, Ascent

EDUCATION

Technical University of Denmark (DTU) <i>MSc in Computer Science and Engineering</i>	Kongens Lyngby, Denmark Sep 2026 – Jun 2028
Faculty of Engineering, University of Porto (FEUP) <i>BSc in Informatics and Computing Engineering AVG:16/20</i>	Porto, Portugal Sep 2023 – Jun 2026

EXPERIENCE

Research Initiation Fellow <i>CAUP – Centre for Astrophysics UP</i>	Jan 2026 – Aug 2026 <i>Porto, Portugal</i>
- Developed an in-situ visualisation pipeline for GPU-accelerated cosmic-string simulations using C++, HILA and Ascent in an HPC environment. - Built data extraction and post-processing workflows for large numerical simulations, reducing reliance on intermediate disk output.	
Curricular Internship <i>INESC TEC</i>	Feb 2026 – Jun 2026 <i>Porto, Portugal</i>
- Implemented a Deep Q-Network (DQN) rate-adaptation algorithm for IEEE 802.11n and deployed it on physical routers using OpenWrt and ORCA. - Designed experiments with iPerf3 and Wireshark, benchmarking the system against Linux Minstrel-HT under dynamically changing wireless conditions.	
Summer Internship <i>INESC-TEC</i>	Jul 2025 – Aug 2025 <i>Porto, Portugal</i>
Developed variants of Q-learning agents in Python and benchmarked their behaviour using Gymnasium.	
Software Engineer <i>INEGI</i>	Oct 2024 – Aug 2025 <i>Porto, Portugal</i>
- Developed three custom SharePoint Framework (SPFx) WebParts for INEGI's new internal intranet, integrating them with an ASP.NET Core API. - Developed backend functionality in ASP.NET Core to securely exchange user-specific data between SharePoint components and internal services. - Integrated and modernized legacy ASP web applications for the new SharePoint platform, including dynamic communication between embedded pages and the parent application.	
Summer Internship <i>INEGI</i>	Jul 2024 – Aug 2024 <i>Porto, Portugal</i>
Built interactive Power BI dashboards for the HR team to analyse employee demographic and evaluation data and support internal decision-making.	

CLUBS, EXCHANGE AND VOLUNTEERING

Erasmus+ Blended Intensive Programme

Internet of Things & 3D Printing – University of Novi Sad

May 2026
Novi Sad, Serbia

- Hands-on development with Arduino/ESP32, IoT networking and cloud services, sensor data collection, and 3D prototyping.

ACM FEUP Member

Sep 2024 – Jun 2026
Porto, Portugal

- Competitive Programming group, solving algorithmic problems involving data structures, graph algorithms, dynamic programming, and complexity analysis.

Missão País

Feb 2024
Vila Meã, Portugal

- Dedicated a full week to supporting elderly residents in a local nursing home, providing emotional care, organizing social activities, and assisting with daily logistics.

LANGUAGES

- Portuguese(Fluent), English(C2), Spanish(B1), Danish(beginner)