

# MONTEIRO DEL PRETE

[Email](#) [LinkedIn](#) [GitHub](#) [Website](#)

## PROFESSIONAL EXPERIENCE

### Teoresi Group, Italy (NA)

03/2023 – Present

#### AI Software Engineer

- Designed and developed a web scraper for analysis tool for Standard Development Organizations (i.e. ETSI, 3GPP, MPEG). Integrated LLM for topic extraction and automated magazine summarization for newsletter generation.
- Designed and developed a desktop application for system diagnostics with real-time updates achieving sub-second response time (less than 1s) for processing 500 samples.
- Enhanced communication security of open-source video conference service Jitsi Meet through the integration of Quantum Key Distribution.
- Designed and developed an HMI application for pallet management, implementing a custom recursive algorithm for the pallet loading problem, which resulted in a 20% increase in productivity of pharmaceutical robots.
- Reduced traffic congestion by designing and developing a communication network for cloud-based video processing for road sign detection and recognition.

## TECHNICAL SKILLS

**Programming Languages:** C++, C, Python

**Databases:** PostgreSQL, SQL Server

**Frameworks:** Qt 6.5 LTS, Tensorflow, Keras, LangChain

**Cloud Platforms:** Azure, AWS

**DevOps Technologies:** Docker, Git, CMake

**Operating Systems:** Linux-based, Ubuntu

Data Structures and Algorithms

Software Engineering principles, Design Patterns, Clean Code

## EDUCATION

### University of Naples "Federico II"

12/2020 – 07/2023

*Master of Science in Artificial Intelligence 110/110 with highest honors*

*Naples, Italy*

### University of Naples "Federico II"

09/2017 – 12/2020

*Bachelor's Degree in Computer Science 110/110*

*Naples, Italy*

## PROJECTS

### Proximal Humerus Fractures (PHFs) Recognition *Python, Tensorflow*

03/2023

- Developed a deep learning model for PHFs recognition (i.e. segmentation and labeling).
- Decreased the energy consumption for training by implementing hybrid (2D/3D) deep learning model.
- Implemented the Triplanar U-Net (Sundaresana et al.)

### Real-time Hand Gesture Recognition *Python, Tensorflow*

01/2023

- Developed a real-time system for hand gesture recognition.
- Integrated MediaPipe to work with hand skeleton model.
- Implemented homographic transformation and Hough circle detection for heuristic classification.

### Self-Driving Car with Reinforcement Learning *C#, Unity*

09/2022

- Self-Driving Car with Deep Reinforcement Learning algorithms in Unity-MLAgents environment.
- Compared two Deep Reinforcement Learning algorithms: PPO and SAC.

### Convolutional Neural Network from scratch *Python*

07/2022

- Implemented from scratch feed-forward layers, convolutional layers and learning with backpropagation for hand digits recognition.

## CERTIFICATIONS

### British Council IELTS

01/07/2022

*English Student - 7.0/9.0 Score*

*Naples, Italy (IT)*

### Kaplan International Languages

06/08/2018 – 24/08/2018

*English Student - B2 Level*

*Santa Barbara, California (US)*