

MONTI DEL PRETE

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WORK EXPERIENCE

Software Engineer @ Teoresi Group

03/2023 – present

C++, Python, Qt, Azure

Naples, Italy

- Developed desktop application for data diagnosis with real-time system update <1s for 500 samples.
- Increased the communication security of Jitsi Meet by 5% by implementing Quantum Key Distribution.
- Increased productivity of pharma robots by 20% by implementing ad-hoc recursive algorithm for the Pallet Loading Problem.
- Designed and implemented a web scraper with emphasis on network latency and optimization of temporal and spatial complexity, increasing user analysis time by 85%.

Software Engineer @ Teoresi Group

09/2020 – 11/2020

Python, AWS

Naples, Italy

- Reduced traffic congestions by designing and developing a communication network for cloud-based video processing for road signs detection and recognition.
- Integrated Haar Cascade Classifier in AWS Lambda for cloud processing.
- Integrated AWS S3 for storage and AWS Iot Core for communication.

TECHNICAL SKILLS

Programming Languages C++, Python

Databases Postgresql, SQL Server

Frameworks Qt 6.5 LTS, Tensorflow, Keras

Devops Technologies Docker, Git, CMake

Operating Systems Linux based, Ubuntu

Data Structures and Algorithms

Software Engineering principles, Design Patterns, Clean Code

Deep Learning and Machine Learning with interest in Computer Vision (CNN) and Reinforcement Learning

EDUCATION

University of Naples "Federico II"

12/2020 – 07/2023

Master of Science in Artificial Intelligence 110/110 cum Laude

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).
- Increased 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)