COMPUTER SCIENTIST

LEONARDO MONCHIERI

PHONE AND MAIL

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LINKEDIN AND GITHUB

linkedin.com/in/leonardomonchieri
github.com/LeonardoMonchieri

PORTFOLIO

https://leonardomonchieri.github.io/

PERMANENT ADDRESS

Via Nazionale 47/B
Costa Volpino(BG) Italy
CAP: 24062

MAIN SKILLS

- Use and theoretical understanding of different paradigms and related programming languages (Imperative, object, functional and logic).
- Implementation and theoretical understanding of machine learning and deep learning systems(PyTorch, TensorFlow and Scikit-Learn).
- High knowledge in Computer graphics and Computer vision: algorithms, technologies and software.

OTHER SKILLS

- High curiosity for everything related to Computer Science.
- Used to Github and Git.
- Usage of Gimp and Blender.
- Wide adaptability even in unfamiliar contexts, easily learning new skills.
- Proactive and open within working groups.
- Car equipped.

ABOUT ME

I am Leonardo Monchieri, a **research fellow** in computer vision at the **University of Padua**, currently involved in the "Semantic and Quality-Oriented View Reconstruction Algorithms" (SEQUOIA) project.
My academic background is focused on **programming languages** and **artificial intelligence** (AI), which I explored extensively during my master's studies.
Besides this, I have developed a personal interest in **video game development** and **virtual reality**, following online courses to improve my skills in these areas.
My passion lies in combining rigorous research with creative technologies to explore innovative applications.

WORKING EXPERIENCES

RESEARCH FELLOW DEPARTMENT OF INFORMATION ENGINEERING
Topic: Virtual reality and 3D segmentation
Padua University | February 2025 – Current

LIFEGUARD
L'ORA S.R.L | Summer season 2016 – 2022

SNOWBOARD DEPARTMENT MANAGER
Dylan ski service | Winter season 2018-2021

PROJECTS

SEMANTIC AND QUALITY-ORIENTED VIEW RECONSTRUCTION ALGORITHMS (SEQUOIA)

Department of Information Engineering (Padua University)
Research project (February – current 2025)

As part of the SEQUOIA project, a collaboration between the Universities of Padua and Trento, my work focuses on enhancing multi-view rendering through semantic understanding and quality-aware optimization. I am currently exploring the integration of semantic information into Gaussian Splatting, to enable fully editable and interactive scene reconstructions. This experience has significantly deepened my expertise in Python(particularly with PyTorch) and has provided me with a strong foundation in professional research practices.

IMAGE EMBEDDING IN PSEUDO-RANDOM LATENT

Padua University
Master's thesis project (February-December 2024)

For my thesis, I designed and implemented a novel image embedding method based on GAN inversion and pseudo-random generators (PRGs). I conducted a comparative analysis of different PRGs, and developed three core architectures: generator, discriminator, and inverse generator, evaluating their performance against an autoencoder baseline. This work deepened my understanding of generative models and embedding techniques, while sharpening my skills in Python and PyTorch, particularly in implementing and training DCGAN-based systems.

ICT SKILLS

Languages and libraries:

- Python ★★★★★
- C++, C# ★★★★☆
- TensorFlow, PyTorch ★★★★☆
- Matplotlib, sciKit-learn, Pandas ★★★★☆
- NetworkX, Node.js ★★★☆☆
- JavaScript, F#, GO ★★★☆☆
- HTML, CSS, react ★★★☆☆

Operative systems:

- Linux/GNU ★★★★★
- Unix ★★★★★
- Windows ★★★★☆
- MacOS ★★☆☆☆

Others:

- Git, GitHub ★★★★☆
- Blender, Gimp ★★★★☆
- Unity, Unreal ★★★★☆
- SQL, Mongo ★★★☆☆
- Docker ★★★☆☆

WEB APPLICATION TO ANALYSE AND SUPERVISE A SOCIAL NETWORK ACTIVITES

University Statale of Milan
Bachelor's thesis project (October 2021-October 2022)

During my bachelor's thesis project for the European ESSENCE initiative, I developed a web application to analyse and supervise user interactions within the Community-Based Activity Center social network. The platform visualises network data and provides tools for analysing user relationships using various metrics. I gained practical experience in full-stack development—using JavaScript and Node.js for the backend, React with HTML/CSS for the frontend, and MongoDB for data storage. I also leveraged NetworkX.js for network analysis and used Docker to manage the development environment.

EDUCATION

MASTER'S DEGREE IN COMPUTER SCIENCE (GRADE 110 W.H./110)

Padua University(IT) | 2022-2024
Major: Artificial Intelligence, Programming languages and systems
Master's thesis title: Image embedding in pseudo random latent
Supervisor: Prof. Simone Milani

ERASMUS EXPERIENCE

Leiden University(NL)| 2023
Focus: Generative AI and Creative computing

BACHELOR'S DEGREE IN COMPUTER SCIENCE (GRADE 103/110)

Statale University of Milan(IT)| 2018-2022
Major: Artificial Intelligence and computer vision.
Bachelor's thesis title: Development and integration of a web application for the supervision and data analysis of a social activity center
Supervisor: Prof. Nicola Basilico

HIGH SCHOOL(GRADE 67/100)

Decio Celeri High school Lovere(IT) | 2013-2018

CERTIFICATES

UNITY AND C#
COURSERA (META) | 08/2024

C++ FOR UNREAL GAME DEV SPECIALIZATION
COURSERA (UNIVERSITY OF COLORADO) | 07/2024

ENGLISH CERTIFICATE(B2)
IELTS British Council | 2023

PUBBLICATIONS

Leonardo Monchieri, Simone Milani (UniPD)
Low bit rate generative face compression using inverse GAN
EUSIPCO(IEEE signal processing society) 2025