DAVIDE MENINI

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Date of birth 31/01/1996 ◇ **Nationality** Italian
Residence Zürich, Switzerland

EDUCATION

M.Sc in Information Technology and Electrical Engineering *09/2018 - 04/2021*
ETH Zürich, Switzerland – Overall GPA: 5.4/6

· Real-time Systems, 3D Computer Vision, Machine Learning

B.Sc in Electronics Engineering *09/2015 - 07/2018*
Politecnico di Milano, Italy – Overall GPA: 110/110

· Analog Circuit Design, Semiconductor Devices
· Scholarship for particularly deserving students during the 3rd year

WORK EXPERIENCE

Teaching Assistant *10/2019 - 01/2020*
Institut für Integrierte Systeme (IIS) - ETH Zürich

· Worked in a team to supervise students with FPGA programming during the laboratory sessions of "VLSI I: from Architectures to VLSI Circuits and FPGA", held by Prof. Luca Benini.

SKILLS

Programming Languages	Bash, C++, Java, LaTeX, Matlab, Python, SystemVerilog, Tcl
Software Tools	Microsoft Office, Industrial EDA Tools, Git
Software Libraries & API	CUDA, TensorFlow, PyTorch, OpenCV, OpenMP, FreeRTOS
Languages	Italian (native), English (fluent), German (beginner)

PROJECTS AND RESEARCH

Real-Time 3D Reconstruction and Semantic Segmentation *10/2020 - 04/2021*
Master's Thesis at CVL - ETH Zürich

· Generated 2D and 3D semantic datasets of indoor environments.
· Developed a real-time learning-based system for dense 3D reconstruction and semantic segmentation of indoor scenes via volumetric fusion of ToF depth images.
· Currently working for its publication at IEEE Robotics & Automation Letter (RA-L).

Neural Style Transfer for Ultrasound Imaging *03/2020 - 06/2020*
Semester Project at CVL - ETH Zürich

· Applied Neural Style Transfer on simulated ultrasound images to improve their quality and realism.
· Implemented a deep learning approach to achieve real-time style transfer.

Lightweight Face Detection on Wearable Microcontroller *10/2019 - 12/2019*
Team Project at IIS - ETH Zürich

· Designed a lightweight face detection algorithm and implemented it on ARM Cortex-M7.

Other Team Projects at ETH Zürich *09/2018 - 06/2020*

- Implementation of NVIDIA Deep Learning Accelerator (NVDLA) in UMC 65nm technology node (*Synopsys' EDA Tools, SystemVerilog*).
- Heterogeneous CPU-GPU acceleration of a text database inverted index search (*Python, C, CUDA*).
- Low-power and low-latency design and implementation of a sensing task on a wireless sensor network using STM32L433 nodes (*C, FreeRTOS*).
- Behavioural analysis using Hierarchical Gaussian Filtering to detect anxiety patients during COVID-19 lockdown (*MATLAB, JavaScript*).

SPORTS AND INTERESTS

Athletics	All-state 100m sprinter for the university athletic team "CUS Pro Patria Milano".
Football	Played at competitive level for 10 years.
Music	Attended on-stage official competitions of classic guitar for 3 years.