ANDREA MAZZEO

SOFTWARE ENGINEER

andrea.mazzeo95@gmail.com | andreamazzeo289 | Portfolio hosted on GitHub

SKILLS

SOFTWARE DEVELOPMENT	C, C++, Qt, Python, Git, Jira
COMPUTER VISION	OpenCV, Keras, PyTorch, Tensorflow, CUDA
EMBEDDED SYSTEMS	FPGA, VHDL, Verilog
WEB DEVELOPMENT	JavaScript, HTML, CSS
LANGUAGES	Italian (native), English (professional)

WORK EXPERIENCE

SMART ROBOTS
May 2021 - present

SOFTWARE ENGINEER
Milan

- Introduced new algorithms to improve the accuracy and efficiency of the Smart Robots product in real-time detection of human actions and objects.
- Designed and implemented new features to enlarge the product functionalities, such as multiple 3D vision systems support, augmented reality system, and data analytics.
- Supervised external software developers, starting from requirements definition until the validation of the final product.
- Designed the UX/UI of the desktop application with the Qt framework.
- Planned software developments based on customer needs.

TECH STACK C++, OpenCV, TensorFlow, QT, Python, CMake

POLITECNICO DI MILANO
Feb. 2020 - May 2021

RESEARCHER
Milan

- Focused on research activities analyzing and designing image processing applications for critical systems, such as Advanced Driver-Assistance Systems and satellite applications.
- Designed a Fault-Injection platform for Virtex-7 and Zynq FPGAs.
- Strengthened a motion detection application using CNNs to evaluate the usability of the application results.
- Designed a Generative Adversarial Network that generates fault models simulating a Single-Event Upset (SEU) occurring on an image processing application.

TECH STACK C, C++, Python, Keras, PyTorch, Verilog

POLITECNICO DI MILANO
Sep. 2020 - Feb. 2021

TEACHING ASSISTANT
Milan

- Supported didactic activities for the university course “Fundamentals of Computer Science”.

EDUCATION

MASTER’S DEGREE IN COMPUTER SCIENCE AND ENGINEERING
Sep. 2017 - Dec. 2019

POLITECNICO DI MILANO
Milan

Grade: 110 with honors / 110

- Engineered a hybrid fault injection framework for image processing applications implemented on an FPGA.
- Worked on computer vision algorithms. In particular, redesigned a motion detection algorithm based on GMM.
- Worked on multiple small deep learning projects over image classification and image segmentation.
- Implemented a two-way cache associative cache controller on an Artix-7 FPGA.

BACHELOR’S DEGREE IN COMPUTER SCIENCE AND ENGINEERING
Sep. 2015 - July 2017

POLITECNICO DI MILANO
Milan

Grade: 105 / 110

- Developed a multiplayer board-game called “Lorenzo il Magnifico” in Java.
- Designed a website for a clinic starting from the database, back-end, and front-end.

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PUBBLICATIONS

USABILITY-BASED CROSS-LAYER RELIABILITY EVALUATION OF IMAGE PROCESSING APPLICATIONS 2021

IEEE INTERNATIONAL SYMPOSIUM ON DEFECT AND FAULT TOLERANCE IN VLSI SYSTEMS

C. Bolchini, L. Cassano, A. Mazzeo, A. Miele

APPROXIMATION-BASED FAULT-TOLERANCE IN IMAGE PROCESSING APPLICATIONS 2021

IEEE TRANSACTIONS ON EMERGING TOPICS IN COMPUTING

M. Biasielli, C. Bolchini, L. Cassano, A. Mazzeo, A. Miele

ERROR MODELLING FOR IMAGE PROCESSING FILTERS ACCELERATED ONTO SRAM-BASED FPGAS 2020

IEEE INTERNATIONAL SYMPSOSIUM ON ON-LINE TESTING AND ROBUST SYSTEM DESIGN

C. Bolchini, L. Cassano, A. Mazzeo, A. Miele

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