Gianluca **Scarpellini**

COMPUTER VISION RESEARCHER AND ENTHUSIAST LEARNER

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Looking for new collaborations in Computer Vision and Deep Learning

Education

Italian Institute of Technology	*Genova, Italy*
PH. D. IN COMPUTER VISION	*Oct 2020 -*

Research on event-based vision for robotics and perception.
Supervisors: Dr. Alessio Del Bue (PAVIS research line) and Dr. Lorenzo Natale (iCub facility)

Università degli studi di Milano - Bicocca [notes repository]	*Milano, Italy*
B.S. IN COMPUTER SCIENCE **(GPA 29.5/30, FINAL GRADE 110L/110)**	*Sep 2015 - Jul 2018*
M.S. IN COMPUTER SCIENCE **(GPA 29.45/30, FINAL GRADE 110L/110)**	*Oct 2018 - Oct 2020*

Computer Vision, Robotic vision, and Machine learning

Udacity	
DEEP REINFORCEMENT LEARNING [PROJECTS REPOSITORY]	*Mar 2020 - Apr 2020*
SENSOR FUSION ENGINEERING [PROJECTS REPOSITORY]	*Apr 2020 - May 2020*

Experience

Visiting Scientist	*Genova, Italy*
ITALIAN INSTITUTE OF TECHNOLOGY @ PAVIS	*Mar 2020 - Oct 2020*

- Computer vision research in academic environment
- Publication soon

DL Research Intern	*Milano, Italy*
ARGO VISION	*May 2019 - Jan 2020*

- Trained state-of-the-art models for aerial semantic segmentation with IOU > 80% (Keras, Hyperopt)
- Trained models for car model and maker classification (200 classes) with accuracy > 80% (Keras)
- Adapted a plate detection & OCR pipeline for raspberry pi (Keras, Darknet, Tensorflow lite)

Projects

Event-based monocular human pose estimation github	*M.s. Thesis*
PYTHON — PYTORCH	*Mar 2020 - Oct 2020*

- Trained models to predict 3D human pose from a single event-camera
- Average of 80mm per-joint precision error

On road object detection from RGB and LIDAR data github	*B.s. Thesis*
PYTHON — PYTORCH, DARKNET	*Feb 2018 - Jul 2018*

- Generated RGBD from RGB and LIDAR data
- Trained object detection & recognition models (Pytorch, Darknet)
- > 60% mAP on benchmark dataset (KITTI Benchmark Suite)

University projects	*M.s. in Computer Science*
PROJECTS — MATLAB, PYTHON	*Sep 2017 - Oct 2020*

- Chess Detection (Matlab — github): Implemented a pipeline for chessboard detection and geometry perspective correction
- Insertion Matcher (Python — github): Pipeline for linking product insertions based on title only. 86% F1-score on Gold Standard
- Fashion Answer (Python — github): Implemented a clothes retrieval bot. Pipeline: segmentation + feature extraction + KDTree

Skills

Computer skills and frameworks

PROFICIENCY IN

- Python *(OpenCV, Tensorflow, Pytorch, Keras, Scikit-learn, Fast.al*
- Matlab *(Matlab Computer Vision toolkit, Image Processing toolkit)*
- C++ *(OpenCV, Event-based vision SDKs)*

Languages

PROFICIENCY IN

- **Italian** — Mother tongue
- **English** — Business fluent