Andrea Amaduzzi

PhD Student in Computer Vision and Deep Learning @ Unibo

I am a PhD student at University of Bologna. I teach machines how to see.

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WORK EXPERIENCE

PhD Student in Computer Vision
University of Bologna, Italy

11/2021 - Present

Achievements/Tasks

- Supervisor: Prof. Luigi Di Stefano
- Expected graduation: November 2025

R&D Vision Software Engineer
Datalogic

07/2020 - 11/2021 *Bologna, Italy*

Tasks:

- Design and implementation of image processing algorithms
- Software maintenance, with Git version control
- Technical support to product hubs of the company
- Tools: C++, Python, Git, IBM Jazz

Computer Vision intern - Master's Thesis
KUKA Robotics - Corporate Research

07/2019 - 02/2020 *Augsburg, Germany*

Achievements/Tasks

- Thesis title: Deep Learning - based Human Action Recognition in a Collaborative Robotics Environment
- Accomplished excellent evaluation from supervisors: "Exceeded the expectations considerably and at all times"

Contact: Dr. Kirill Safronov - Kirill.Safronov@kuka.com

EDUCATION

Master's Degree in Automation Engineering
University of Bologna, Italy

09/2017 - 03/2020 *Final mark: 110/110 with honors*

Courses

- Thesis Title: Deep Learning - based Human Action Recognition in a Collaborative Robotics Environment
- Focus on: Industrial Robotics, Optimal Control, Computer Vision

Bachelor's degree in Automation Engineering
University of Bologna, Italy

09/2014 - 09/2017 *FInal mark: 110/110 with honors*

Teaching language: Italian

- Top 3% Class Rank (250 students)
- Experimental thesis: Recurrent Neural Network and Genetic Algorithm for the estimation of the elbow torque in dynamic situations, from sEMG signals, Tools: Matlab / Simulink

SKILLS

C++	Python
ROS	Git
Tensorflow	OpenCV library
PCL (Point Cloud library)	Matlab / Simulink

PROJECTS

Deep Learning - based Human Action Recognition in a Collaborative Robotics Environment (07/2019 - 02/2020)

- Master Thesis project at KUKA Robotics
- Deep learning models (Mask-RCNN, OpenPose), 3D Point cloud processing and machine learning
- Tools: Python, C++, ROS, Tensorflow, OpenCV, PCL, Git

3D Object Modeling through 3D camera (10/2019 - 11/2019)

- Side project at KUKA Robotics - Corporate Research
- Method for the generation of 3D models, from RGBD input
- Tools: Java, ROS

2D Long-Term SLAM with a Fetch Robot (09/2018 - 11/2018)

- Implemented an algorithm for simultaneous localization and mapping of Fetch Robot;
- Implemented with ROS (Robot Operating System)
- University of Technology, Sydney, Australia

Development of a computer vision stereo matching algorithm (01/2018 - 04/2018)

- Development of an algorithm that, given a pair of rectified stereo images, can compute the associated disparity map
- Software Used: OpenCV Library with C++ language

ONLINE COURSES

Machine Learning | Coursera
www.coursera.org

Convolutional Neural Networks for Visual Recognition
Stanford University CS231n

Fundamentals of Digital Image and Video Processing
www.coursera.org

LANGUAGES

English (C1)	Italian
Full Professional Proficiency	*Native or Bilingual Proficiency*