Contacts

+39 3331922377
vinc.delzoppo@live.it
www.linkedin.com/in/vincenzodelzoppo

Main Field of Expertise

Machine Learning, Computer Vision
Python C C++ C# Matlab JavaScript
Artificial Intelligence, AI

Languages

Italian (Native)
Enlgish (C2)
French (Full Professional)

Honors-Awards

Excellence University Scholarship in Physics at "Scuola Superiore di Catania"

National 13° place at "Excellence Math Scholarship INDAM 2009"

National BRONZE medal at "Olimpiadi Della Matematica Italiane" 2009

National Merit medal at "Olimpiadi Della Fisica Italiane" 2009

National Merit medal at "Olimpiadi Della Matematica Italiane" 2008

National Merit medal at "Olimpiadi Della Matematica Italiane" 2007

Publications

A data volume reduction strategy based on on-board Doppler filtering

Machine Learning-based Voice Assessment for the Detection of Positive and Recovered COVID-19 Patients

Joint effects of on-board Doppler filtering and quantization in spaceborne SAR systems

On-Board Doppler Filtering for Data Volume Reduction in Spaceborne SAR Systems

Education

Scuola Superiore di Catania
Computational Physics · (2009 - 2012)

Università di Catania
Physics · (2009)

Liceo Scientifico F.Sbordone Napoli (NA)
High School Diploma (Computer Science Project) · (2004 - 2009)

Vincenzo Del Zoppo

Computer Vision & Deep Learning Data Scientist

Job Experience

Senior AI Performance Engineer at State Street

[2022 - Present] - Austin, Texas, United States
My role was to maintain and improve the performance of an AI platform for document processing, mostly focusing on the extraction of tabular data.
Documents were given from clients in the most various formats and the task was to automatize extraction covering the majority of cases to minimize the validation effort from data entry units.
The majority of the effort was to ensure the extraction in case of weird table formats, misspellings, OCR mistakes, abbreviations, tables without headers or following to the next pages, poorly scanned documents, etc...

Senior Data Scientist at Cartrack Asia Pacific

[2020 - 2022] - Singapore
I'm currently leading and improving all the company's Computer Vision and Deep Learning solutions following the entire product pipeline from the POCs to the final deployable models on the boards.
We are currently working on Driver/in-cabin monitoring, as well as ADAS systems algorithms.
Aggregating multiple video sources and generating our own datasets, allow us to monitor the status of the driver and the passengers and track surrounding vehicles, on embedded boards with restrictive computational robustness and compatibility constraints, and low-cost hardware like CEVA, AmLogic, RockChip, Xilinx, and other cheap platforms.
We are working on data collection, Semi-supervised labeling, data cleaning, Multi-Task Learning, Neural Architecture Search, custom losses, network surgery, pruning, regularization, fine-tuning, Quantization Aware Training, Transfer Learning, and Semi-supervised Learning.
We are using Keras, Tensorflow, Caffe, PyTorch, ONNX, NumPy, Pandas, for design and C++, OpenCV for deployment.

Video Processing Data Scientist at Tattile srl

[2018 - 2020] - Brescia, Italy
As a DSP engineer and AI data scientist, my role consisted in exploring RGB/ IR camera firmware and embedded software improvements.
I worked on ALPR cameras, boosting performances and accuracy tradeoffs, using robust real-time DSP algorithms, and improving Deep Learning architectures.
Fast and robust FPGA solutions allowed us to perform real-time on embedded platforms with extremely restrictive computational constraints, and low-cost hardware. I'm constantly using Neural Architecture Search, optimization, regularization, pruning, fine-tuning, quantization, Unsupervised Learning, Transfer Learning, and Generative Networks.

Artificial Intelligence & Data Processing Engineer at Leonardo

[2017 - 2018] - Catania, Italy
Research and development on fast distributed algorithms for realtime, multiple-object tracking embedded on multiple-camera autonomous surveillance systems, including automatic camera calibration, vehicle and pedestrian tracking, classification and further elaboration such as traffic monitoring and security systems.
Other minor projects involve processing of different datasources such as GPS, Radars, and other sensors timeseries data.
I'm using Python, OpenCV, scikit_learn, CNTK, GeoPandas, Keras, R, Tensorflow for prototyping demos for clients.

Computer Vision Research Engineer at Tabex Vision Technologies

[2016 - 2017] - San Francisco Bay Area, United States
Research and development of AI algorithms for image classification, document processing, segmentation and tables/charts/graphs data extraction.
I was responsible of the whole process from the Python prototyping to the developing of demos for clients and agile deployment of Web API and REST Services on AWS.
Make profiling and quality performance tests of our software.
Comparing them to the most relevant competitors in order to decide and plan next research steps and product improvements in short term.

Research Fellow in Image Processing at DLR (German Aerospace Center)

[2013 - 2014] - Munich, Germany
Future HRWS SAR images will provide fast time series of relief models of the globe to monitor Earth surface evolution, improving research in biosphere, lithosphere and hydrosphere dynamics.
Such huge amount of data will need an on-board pre-processing to reduce downlinking data volume. My role consisted in researching embedded-optimized solutions joining the implementation of interpolation for Staggered SAR signal resampling with lowpass FIR filtering, evaluating optimal compromises between data accuracy and computational costs of the signal processing.

Junior Software Developer at HypoVereinsbank - UniCredit Bank AG

[2012 - 2013] - Munich Germany
Development and Maintenance of C++ / SQL libraries for the LimeX project (an extension of Sophis the main database of the HypoVereinsBank). We worked at LimeX as a little developers team. The aim of the project is to create a library for dataminig and reordering items in trade-dependencies trees helping Business Analysts in the evaluation of Trade risks.