RAFFAELE POJER

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EDUCATION

PhD in Computer Science (Ongoing)   2023 - Present
Aalborg University, Denmark
Enrolled as a PhD student in Computer Science at Aalborg University. Working on a neuro-symbolic approach for Graph Neural Networks using Relational Bayesian Networks encodings.
Supervisor: *Manfred Jaeger* Co-supervisors: *Kim Larsen* and *Andrea Passerini*

Master's Degree in Artificial Intelligence Systems   2020 - 2023
University of Trento, Italy
Relevant Coursework: Machine Learning, Deep Learning, Advanced Topics in Machine Learning and Optimization, Fundamentals of Artificial Intelligence, Advanced Computer Vision, Bio-Inspired Artificial Intelligence, Signal Image and Video (SIV).

Bachelor's Degree in Computer Science   2017 - 2020
University of Trento, Italy
Relevant Coursework: Algorithms and Data Structure, Mathematical Foundation of Computer Science, Calculus, Geometry and Linear Algebra, Formal languages and compilers, Operating Systems.

High School Diploma, ICT specialization   2012 - 2017
ITT M. Buonarroti, Trento, Italy

WORK EXPERIENCE

Internship at Aalborg University   Sep 2022 - Dec 2022
Aalborg University, Denmark

- Curricular internship for thesis research. The topic is the combination of Relational Bayesian Networks (RBNs) and Graph Neural Networks (GNNs): a new neuro-symbolic approach for learning and reasoning about graph data.
  Supervisors: Professors *Manfred Jaeger* and *Andrea Passerini.*

PUBBLICATIONS

- R. Pojer, A. Passerini, M. Jaeger, "Generalized Reasoning with Graph Neural Networks by Relational Bayesian Network Encodings", LOG 2023

SKILLS

Computer Languages	Python, Java, C, C++, JavaScript
Python libraries	Numpy, Pandas, Sklearn, Scipy
Machine learning frameworks	PyTorch, PyTorch-Geometric
OS	Linux, MacOS, Windows

PROJECTS

Botch. Bachelor thesis project. Mod of Scratch 3.0 to teach kids rudimentary basics of evolutionary computing.
(Try it here)

Variable Name Prediction. Predicting Python variable names with Code-Transformer. A program synthesis project for the course of Advanced Topics in Machine Learning and Optimization.

Language Models. Written different flavours of RNN architectures from scratch (GRU and LSTM). A NLU course project.

Unsupervised domain adaptation in Computer Visions. A team project, where we develop a model based on GANs and cycle-consistent losses for an unsupervised domain-adaptation task.

Automatic Emergency Sign Detection. For the course of Signal, Image and Video: developed a classifier that recognize from smartphone photos, emergency sign without the usage of any deep-learning algorithm.

VOLUNTEERING

- **First aid volunteer**, Val di Cembra (Italy) 2017 - 2023
  Active volunteer from a first aid health association, Stella Bianca ONLUS. One night shift a week with team of coworkers in an ambulance. (stellabianca.eu)

- **CoderDojo Mentor**, Val di Cembra (Italy) 2018 - Current
  Co-founder and mentor of the CoderDojo Val di Cembra branch. CoderDojo is a global volunteer-led community of free programming workshop for young people between the age of 7 and 17. (coderdojocembra.it)

CREATIVE WORKS

- **Theater**, Altavalle (Italy) 2012 - Current
  Actor, sound and light technician of the Libero Teatro di Grumes philodrama.

- **Photographer**, Altavalle (Italy) 2018 - 2023
  Photographer of the Contavalle projects, hosted by Punto Doc.

HONORS AND AWARDS

- **Premio Mario Roat - Co.F.As.**, Trento (Italy) 2019
  Miglior giovane interprete di un testo dialettale. Targa "Lino Lucchi".
  (best young performer of a dialect text)