

**EUROPEAN
CURRICULUM VITAE
FORMAT**



PERSONAL INFORMATION

Name **PAOLO FAZZINI**
Address
Telephone
Other link

E-mail
Nationality **Italian**

Date of Birth **10/12/1969**

Gender **male**

WORK EXPERIENCE

- Dates (from - to) **July 2022 – Present**
- Name and address of the employer **Research Fellow at CNR-ISC; PHD at CNR-ISTC [Artificial Life and Robotics Lab] and Sapienza University of Rome [Engineering in Computer Science] (Rome, It)**
- Type of business or sector **Research**
- Occupation or position held **Research Fellow**
- Main activities and responsibilities
 - Vehicle Traffic optimization with Multi-Agent Reinforcement Learning and Natural Evolution Strategies in the Catania Area (Italy)
 - Multi-objective optimization problems (Energy mini-grid Optimization)
 - PM10 forecasting in polar areas with Reservoir Computing
- Dates (from - to) **Jan 2018 – June 2022**
- Name and address of the employer **Research Fellow at CNR-IIA [Bio-Energies Lab]; PHD at CNR-ISTC [Artificial Life and Robotics Lab] and Sapienza University of Rome [Engineering in Computer Science] (Rome, It)**
- Type of business or sector **Research**
- Occupation or position held **Research Fellow**
- Main activities and responsibilities
 - Vehicle Traffic optimization with Multi-Agent Reinforcement Learning
 - Mixed Cooperative/Competitive Behavior analysis of Multi-Agent systems with Reinforcement Learning and Natural Evolution Strategies
 - Time Series analysis and forecasting with LSTM-based networks, Sarima and FBProphet
 - Vegetation classification with Remote Sensing and Convolutional Neural Nets
- Dates (from - to) **Sept 2016 - Dec 2017**
- Name and address of the employer **Research Engineer at Photonic Designs Ltd (London, UK):**
- Type of business or sector **S/W Simulations, H/W prototyping**

- Occupation or position held
- Main activities and responsibilities
- Dates (from - to)
- Name and address of the employer

Senior Research Engineer
Fluid dynamic modeling of air-structure interactions

Jan 2001 - May 2016

Senior Research Engineer at Imagination Technology (Kings Langley, UK), PowerVR Division.

activity: algorithm conception and design
Intellectual Property – H/W and S/W Design

Senior Research Engineer

2D and 3D graphics algorithm design:

- Digital Video Processing (De-interlacing, Noise Removal, Super Resolution, Y/C separation)
- Digital Image Processing
- Gamut Mapping
- Neural Networks for artifact detection, noise-removal, super-resolution and semantic segmentation
- Efficient bump mapping
- Image compression

- Type of business or sector
- Occupation or position held
- Main activities and responsibilities

- Dates (from - to)
- Name and address of the employer
- Type of business or sector
- Occupation or position held
- Main activities and responsibilities

Apr 1998 - Dec 2000

Viasat srl (Rome, It)

Software and Hardware Engineering

Telecommunication Engineer

Designer of Automatic Management for MS Windows processes

- Back-end designer for Differential GPS Satellites Data

- Dates (from - to)
- Name and address of the employer
- Type of business or sector
- Occupation or position held
- Main activities and responsibilities

Oct 1994 - March 1998

Various (see details below)

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Front and Back-End Designer at Linea Informatica (Teramo, It)

- Research Engineer at IDEA srl (Pescara, It)
- H/W and S/W designer of state machines at Sea srl (Teramo, It)
- Physics Teacher at the Industrial Technical School of Teramo (Teramo, It)
- Civil Service (Corridonia, It)

EDUCATION

- Dates (from - to)
- Name and type of organisation providing education and training
- Principal subjects/occupational skills covered
- Title of qualification awarded

Sept 1988 - Sept 1994

University of Bologna / Nuclear Engineering

N/A

Master Degree in Nuclear Engineering with dissertation in Thermo-Fluid-Dynamics: two problems solved with a Finite Element Method (FEM) original code in Fortran.

PERSONAL SKILLS AND COMPETENCES

MOTHER TONGUE

OTHER LANGUAGES

ITALIAN

ENGLISH, FRENCH

SCIENTIFIC SKILLS

AND COMPETENCES

Living and working with other people, in multicultural environments, in positions where communication is important and situations where teamwork is essential (for example culture and sports), etc.

- Programming (Python, C, C++, C#, Assembly, Fortran)
- Numerical Modeling (Matlab)
- Symbolic Modeling (Maple)
- Thermo-Fluid-dynamics (OpenFoam)
- Math and Statistics

RELEVANT PUBLICATIONS

IN THE LAST 10 YEARS.

- Sentinel-2 Remote Sensed Image Classification with Patchwise Trained ConvNets for Grassland Habitat Discrimination (First and corresponding author, Remote Sensing, <https://www.mdpi.com/2072-4292/13/12/2276>)
- Traffic Signal Control with Communicative Deep Reinforcement Learning Agents: a Case Study (First and corresponding author, Arxiv, <https://arxiv.org/abs/2107.01347>)
- Effects of Smart Traffic Signal Control on Air Quality (First and Corresponding author, Frontiers, <https://www.frontiersin.org/articles/10.3389/frsc.2022.756539/full>)
- Effects of deployment of electric vehicles on air quality in the urban area of Turin (Italy) (co-author, Pubmed, <https://pubmed.ncbi.nlm.nih.gov/34333307/>)

PATENTS

List Available at: <https://patents.google.com/patent/>

Granted by	Role	A Ref	Title
WO, EP, US, JP, GB	Last Author	US7733352B2	Efficient bump mapping using height maps
WO, EP, US, JP, GB	Sole Author	EP1623568B1	De-interlacing of video data
US, GB	Sole Author	US20200342831A1	Gamut mapping with blended scaling and clamping
WO, EP, US, JP, GB	Sole Author	US20060181647A1	Conversion of video data from interlaced to non-interlaced format
WO, JP, US	Sole Author	US20060176394A1	De-interlacing of video data / 2
WO, EP, US, JP, GB	Sole Author	US20060176393A1	Conversion of video data from interlaced to non-interlaced format / 2
WO, EP, US, JP, GB	Sole Author	JP5364264B2	Location detection of block defect using neural networks
WO, EP, US, CN, GB	Sole Author	GB2484071B	De-interlacing of video data / 3

According to law 679/2016 of the Regulation of the European Parliament of 27th April 2016, I hereby express my consent to process and use my data provided in this CV