

Sara
Grassi

WORK EXPERIENCE

11/2019 - CURRENT - Ferrara, Italy

PhD student

Department of Mathematics and Computer Science - University of Ferrara

10/2019 - CURRENT - Modena, Italy

Mathematics teacher (for exercises)

Life science department - UNIMORE

10/2019 - CURRENT - Modena, Italy

Mathematics teacher (for exercises)

Department of chemical and geological sciences - UNIMORE

05/2015 - 11/2019 - Reggio Emilia, Italy

Waitress

Restaurant "Piccolo Paradiso"

09/2013 - CURRENT - Reggio Emilia, Italy

Mathematics and Physic private teacher

09/2014 - 06/2016 - Reggio Emilia, Italy

Volley Coach

ASD Invicta

02/2015 - 02/2016 - Modena, Italy

Secretary

Physics department - UNIMORE

09/2013 - 05/2015 - Reggio Emilia, Italy

Waitress

Restaurant "Le Cicogne"

06/2012 - 08/2012 - Scandiano (RE), Italy

Apprenticeship

Panciroli Tendaggi srl

06/2011 - 08/2011 - Scandiano (RE), Italy

Apprenticeship

L'isola che non c'è srl

EDUCATION AND TRAINING

09/2017 - 10/2019 - Modena, Italy

- **Master's degree in Mathematical Science**

Department of Mathematics - University of Modena and Reggio Emilia

"Modelli di ottimizzazione non convessa per la compressione e la ricostruzione di immagini" | EQF level 7

09/2018 - 02/2019 - Murcia , Spain

- **Erasmus experience**

Universidad de Murcia,

Study of subjects related to the application of mathematics to computer science

10/2013 - 04/2017 - Modena, Italy

- **Bachelor's degree in Mathematical Science**

Department of Mathematics - University of Modena and Reggio Emilia

"Risoluzione di problemi geometrici elementari attraverso l'utilizzo dell'Origami" | EQF level 6

09/2008 - 06/2013 - Reggio Emilia, Italy

- **Industrial Technical Institute certificate, Computer science specialization**

ITG "Blaise Pascal"

General: Italian, English History and Philosophy Physics and Maths

Occupational: Computer science (programming languages as C, Pascal, Assembly, HTML, Javascript, AJAX, PHP, Database management with MySQL, Networks management,...) Economy

EQF level 5

LANGUAGE SKILLS

MOTHER TONGUE(S): Italian

English

Listening
B2

Reading
B2

Spoken
production
B1

Spoken
interaction
B1

Writing
B1

Spanish

Listening
C1

Reading
B2

Spoken
production
C1

Spoken
interaction
C1

Writing
B1

DIGITAL SKILLS

Microsoft Word | Microsoft Excel | Outlook | Power Point | Google Drive | C | C++ | JavaScript | SQL | Matlab (Basic) | LaTeX (Intermediary) | Turbo Pascal | PHP (intermediate)

COMMUNICATION AND INTERPERSONAL SKILLS

● **Communication skills**

Good communication skills gained working in the restaurant;

Ability to communicate in other languages such as English and Spanish acquired through Erasmus experience in Spain;

Teaching skills acquired through my experience as private teacher and at the university;

● **Organisational / managerial skills**

Team-leading skills acquired in the restaurant where i am responsible for 10 others waiters;

Organisational skills gained in the apprenticeship, working as secretary;

PROFESSIONAL INTEREST

● **About Me**

For my master's thesis I worked on imaging problems that involve the use of different gradient properties and gradient methods. Subsequently I started working under the supervision of Professor Pareschi on a new CBO method that exploits the physical behavior of a particle system in order to identify the global minimum of non-convex functions in high dimension. Currently, my mathematical interests are more focused on applying mean-field and kinetic theory in different areas and in particular in machine learning.

● **Research Topics**

Partial differential equations, kinetic theory, ordinary differential equations, data analysis, gradient's methods, imaging, machine learning

11/2019 - CURRENT

● **Work in progress**

An article entitle "Stochastic and mean- field modelling of particle swarm optimization" with my advisor Lorenzo Pareschi