Andrea **Mezzalira**

Data Scientist · PhD in Theoretical Physics

London Area, UK

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Five-years professional experience in mathematical modeling and data wrangling, with 12 papers published by international, peer-reviewed journals. Cloudera certified Analyst (CCA), I use to code with machine learning purposes mostly in Python, Mathematica and PL/SQL. I tend to use Regex enthusiastically whenever possible.

Skills

Programming: Python (Pandas, Scikit Learn, Keras, Sympy) | C | Mathematica | KNIME platform

Big Data tools: HDFS | Impala | Hive | Flume | Kafka | HUE

Database: Oracle | MySql | PL/SQL dialect

Languages: Italian | English | French

Experience

Data Scientist Consultant
London, UK

BÜHLER UK LIMITED — *May 2018 - July 2018*

- Analysing 15+ years of unstructured machine logs to deliver an innovative predictive alert system for machine faults and to give insights about corruption processes.
- Among the models used: logistic regression and clustering techniques.
- The project is part of the ASI Data Science fellowship.

ASI Data Science
London, UK

DATA SCIENTIST FELLOW — *May 2018 - July 2018*

- Eight weeks of intensive bootcamp in Data Science.

External Physics Professor
Alessandria Area, Italy

UNIVERSITY OF EASTERN PIEDMONT — *Jan. 2018 - Present*

- Lecturer for the Chemistry course "Electromagnetism and Optics".

Mathematics and Physics Teacher
Alessandria Area, Italy

LICEO "GIUSEPPE PEANO" (TORTONA) AND ISS "BARLETTI" (OVADA) — *Sep. 2017 - Jun. 2018*

- Lectures are partially given in English under the "Content and Language Integrated Learning" (CLIL) program.
- European project Management: responsible of scientific contents, preparation of application packages.
- Organisation of computer science courses for senior students, using a multidisciplinary approach: starting from the analysis of scientific experiments, the students learn to basics of some programming languages (python, LaTeX).

Consultant Data Scientist & Data Analyst
Vicenza Area, Italy

MIRIADE S.P.A. — *Sep. 2016 - Sep. 2017*

- Working in team to design on-demand data science projects with before-cleaning datasets larger than 100GB on average. Mainly used machine learning algorithms include: Ridge and Lasso regression, K-Means clustering and Latent Dirichlet Allocation.
- Among the projects, the forecasting of parking lots occupancy (20 parking lots, $\sim$ 3000 total parking spots and five-years transactions dataset) using ensemble methods.
- Using Big Data tools (above all: Flume, Kafka and Impala) to parse and analyse multi-source, real-time log streaming ($\sim$ 50KB/sec.).

Consultant Database Administrator
Vicenza Area, Italy

MIRIADE S.P.A. — *Jan. 2016 - Sep. 2017*

- Installing, tuning and managing Database software (mainly Oracle and Postgres).
- First and second level customer service ticketing. Among the activities, database migration, query tuning and disaster recovery.
- Lecturer for databases courses dedicated to customers.

Postdoctoral Research Fellow
Leiden, the Netherlands

UNIVERSITY OF LEIDEN - INSTITUUT-LORENTZ FOR THEORETICAL PHYSICS — *Jan. 2015 - Feb. 2016*

- Developing mathematical models, using String theory framework and semi-numeric PDEs techniques (shooting methods), to investigate unexplained universal behaviour of a class of phase transitions in electron systems.
- Spending a nine-months period visiting and collaborating with Trinity College Dublin, School of Mathematics.

Postdoctoral Research Fellow *Bruxelles, Belgium*

Université Libre de Bruxelles (ULB) - Group de Physique Mathématique des Interations Fondamentales *May. 2013 - Dec. 2014*

- Working in a scientists consortium aimed to modelize many-body systems in the on-the-edge String theory framework. By developing a recursive algorithm to solve PDEs semi-numerically, I improved by 10x the precision of the results.

Intern *Alessandria Area, Italy*

University of Eastern Piedmont *Jan. 2009 - Sep. 2009*

- Working to extend and publish my master thesis.

Intern *Geneva, Switzerland*

CERN - Alice experiment group *Summer 2006*

- Building virtual control panels for Alice Silicon Pixel Detector (SPD); testing multiple detector's components.

Intern *Marburg, Germany*

Philipps-Universität Marburg - Department of Chemistry - Computer Simulation Group *Summer 2005*

- Implementing a C++ code (based on Monte Carlo method) to simulate particles in nanotubes.

Certifications

Coursera, Deep Learning Specialization

Improving Deep Neural Networks: Hyperparameter tuning, Regularization and Optimization *Jan. 2018*

- License YBFZKUCVF8VA

Structuring Machine Learning Projects *Jan. 2018*

- License QPFVNN5WQMFY

Convolutional Neural Networks *Dec. 2017*

- License Q38A7FK6S3BZ

Neural Networks and Deep Learning *Dec. 2017*

- License P83C3SB4YTBC

Cloudera

Cloudera Data Analyst (CCA) *Aug. 2017*

Education

University of Turin *Turin, Italy*

PhD in Theoretical Physics *2010 - 2013*

- Defense on 26th March 2013; thesis title *Fermionic Variations on AdS/CFT Themes*
- Spending a two-months period working at the Ecole Normale Superieure in Paris.

University of Turin *Turin, Italy*

M.Sc. in Theoretical Physics *2006-2008*

- Italian Title Degree: *Laurea Specialistica in Fisica delle Interazioni Fondamentali*.
- Score: 110/110 cum Laude.

University of Eastern Piedmont *Alessandria, Italy*

Bachelor degree *2003-2006*

- Italian Title Degree: *Laurea Triennale in Fisica*.
- Score: 110/110 cum Laude.