Vincenzo Lavorini

DATA SCIENTIST

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CONTACT

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Address	9 Avenue Perdtemps, 1260 Nyon (CH)
Nationality	Italian
Date of birth	December 2, 1981
Gender	Male

EXPERIENCES

Oct 2017 – August 2019
Data Scientist
@ Natural Cycles – Geneva (CH)

Research and analyze company data, working with marketing, business and product teams by fetching and analyzing relevant datasets.

Supervision of three junior Data Scientists.

Main outcomes:

- Deployment of optimization algorithms based on Bayesian methods;
- Development and deployment of churning prediction algorithms combining several Machine Learning techniques: Boosted Classification Trees (XGBoost), non-linear Dimensionality reduction (UMAP) and soft clustering (HDBScan)
- Development of time dependent data extraction model based on dilated CNN

08/2016 – 09/2017
Data Scientist
@ (self employed) – Geneva (CH)

Consultant in the Artificial Intelligence / Machine learning sector: PoC development, teams selections.

Main outcomes:

Development of Deep Learning models with TensorFlow and Keras:

- computer vision: object classification, detection and counting (CNN), image improvement (SuperResolution)
- classification models based on representation of objects with semantic correlation in multi dimensional space and analysis (entity embeddings, RNN)

01/2016 – 07/2016

Designed and development of a web application for QA/QC

FS developer/Data Scientists **@ CERN – Geneva (CH)**	purposes.
	Based on Node.js as core framework, with Angular.js as frontend, the application includes Data Analysis routines:

- QA of hardware components via Computer Vision method (OpenCV / Python);
- Automatic Report creator;

07/2014 – 01/2016 **Data Scientist** **@ CERN – Geneva (CH)**	Study and development of monitoring tools for data management purposes, with web pages as GUI.

12/2013 – 06/2014 **Data Scientist** **@ INFN – Cosenza (IT)**	I've been part of the team which set up a Data Center for the ReCaS project (22k cores, 14 PB storage).
	Main outcomes:

- Study and development of users classification, based on their resources usage.
- Study of resources pre-allocations based on the classification outcome.

02/2013 – 06/2013 **Physicist** **@ CERN – Geneva (CH)**	R&D on a sub-nuclear particle detector.
	Main outcome: Development of a model to simulate the behavior of the detector.

CONTINUOUS EDUCATION

11/2019 HEC Paris	**_Creating and developing a tech startup_**
	Coursera License SXFUGJ6DX2LW
09/2018 Higher School of Economics	**_Bayesian methods for Machine Learning_**
	Coursera License CZ5XFYEMFS3V
10/2017 **Stanford University**	**_Structuring Machine Learning Projects_**
	Coursera License 6FFH8XNJ54R9
09/2017 **Univ. Of Irvine**	**_Managing Project Risks and Changes_**
	Coursera License BAMQ8PW5BZG6
09/2017 **Univ. Of Irvine**	**_Budgeting and Scheduling Projects_**
	Coursera License XDHF2L85WYEG

09/2017	**_Initiating and Planning Projects_**
Univ. Of Irvine	Coursera License FVJ98WDB6VR7
06/2017	**_Business Concept_**
CTI-EPFL	
08/2016	**_Machine Learning_**
Stanford University	Coursera License DJUC43DU9NLH

FORMAL EDUCATION

2009 – 2012	**_Ph. D. In High Energy Physics_**
Universita degli studi della Calabria (Italy)	Thesis title: Study of the top quark differential cross section with the ATLAS detector at the LHC
2006 – 2009	**_Master's degree In High Energy Physics_**
Universita degli studi della Calabria (Italy)	Thesis title: Study of the top quark production with the ATLAS detector at the LHC
2006 – 2009	**_Bachelor degree Physics_**
Universita degli studi della Calabria (Italy)	Thesis title: Decay time of mu lepton in free and 1s bound states of aluminum

LANGUAGES

Mother tongue	**_Italian_**
Foreign languages	**_English: c2_**
	French: c1

Publications

I have 230 publications, for a h-index of 91, most of them within the ATLAS Collaboration (CERN).

In Particular, in the:
"Measurements of top quark pair relative differential cross-sections with ATLAS in pp collisions at root s=7 TeV", published in January 2013 in the EUROPEAN PHYSICAL JOURNAL C, I've been responsible of the development of the Unfolding methods.

"New Small Wheel Technical Design Report", published as internal document with references CERN-LHCC-2013-006, ATLAS-TDR-020. Here I've studied the behavior of the detector, validating the simulations done by the group.

"New data access with HTTP/WebDAV in the ATLAS experiment", where I am co-author in the talk given at CHEP2015. Here I've worked in the part concerning HTTP/WebDAV testing on the GRID, and data transfers on the GRID sites.

"Infrastructure Monitoring for Distributed Tier1: The ReCaS Project Use-Case", proceedings of the 2014 International Conference on Intelligent Networking and Collaborative Systems (INCoS). I've contributed to the building of the monitoring systems.

IT PROFESSIONAL SKILLS

Operating systems	*Linux, Mac OS X*
System development	*Python, Java, Javascript (NodeJS), Bash, C++*
Data Science/ML	*Scikit-Learn, Pandas, Numpy, Pytorch*
Visualization tools	*Matplotlib, Seaborn, Bokeh, Tableau*
Collaboration Tools	*Git, SVN, Google Docs, Slack, Jira, Trello*

PROFESSIONAL HIGHLIGHTS

I like to go beyond the expectations, in order to reach goals at the best;

Entrepreneurial mindset;

I keep myself updated for new tools and techniques, also by taking on-line courses;

I love to take initiatives;

I get actively involved in open source projects;

I have a deep knowledge of Linux O.S. networking and Cloud Computing

OTHER SKILLS AND HOBBIES

Winner of a bronze medal in an international Deep Learning competition: "The Nature Conservancy Fisheries Monitoring" hosted by Kaggle.com