europass Curriculum vitae

PERSONAL INFORMATION

Luca Giommi

91/A, street Fanella, Fano, 61032, Italy

+39 3332971128 +39 0721805230

luca.giommi3@unibo.it, luca.giommi2@studio.unibo.it

Skype contact luca.g.93

Gender Male | Date of birth 2 August 1993

Nationality Italian

Dichiarazione sostitutiva di certificazione (art. 46 e 47 D.P.R. 445/2000) Il sottoscritto Luca Giommi, consapevole che le dichiarazioni false comportano l'applicazione delle sanzioni penali previste dall'art. 76 del D.P.R. 445/2000, dichiara che le informazioni riportate nel seguente curriculum vitae, corrispondono a verità.

EDUCATION

01/11/2018 – now Ph.D Student in Data Science and Computation

Winner of the INFN scholarship

University of Bologna, Bologna (Italy)

23/03/2018 Master degree in Nuclear and Subnuclear Physics

University of Bologna, Bologna (Italy)
Vote: 110/110 with honours

Thesis (written in english): "Prototype of Machine Learning "as a Service" for CMS Physics in Signal vs Background discrimination" (`http://www.infn.it/thesis/thesis_dettaglio.php?tid=11847`).

Supervisors: Prof. Daniele Bonacorsi, Doct. Valentin Kuznetsov, Prof. Andrea Castro

25/09/2015 Bachelor's degree (Italian "Laurea") in Physics

University of Bologna, Bologna (Italy)
Vote: 110/110 with honours

Thesis (written in english): "Predicting CMS datasets popularity with Machine Learning" (`http://www.infn.it/thesis/thesis_dettaglio.php?tid=10091`).

Supervisors: Prof. Daniele Bonacorsi, Doct. Valentin Kuznetsov

07/2012 Scientific High School Diploma

High school G. Torelli, Fano (PU)
Vote: 100/100

WORK EXPERIENCE

11/2019 – 02/2020 Business consultancy for AlmaCube S.r.l. related to the project Oper CBI

Learning support for the digital transformation issues and support for the groups in the application of the techniques to the challenges. Attendance at Bertinoro for support during the hands-on lectures. 16 hours of lectures.

02/2019 – today Member of the CMS collaboration of the LHC accelerator at CERN

07/02/2019 – today
Contract of association at CERN (European Organization for Nuclear Research) as User

01/11/2018 – today
Contract of association at INFN (Istituto Nazionale di Fisica Nulceare)

01/09/2018 – 31/10/2018
Technological Summer Student fellowship program at INFN-CNAF, Bologna.

1-st classified in the selection ranking of the national competition.

The work was focused on log parsing and applying Machine Learning techniques on log content for a Predictive Maintenance solution at the INFN-CNAF computing center. The work continued in the first part of my Ph.D and was presented at an international conference (see in the publications section).

25/06/2018
Winner of the GARR Scholarship for young graduates

4-th classified in the selection ranking of the national competition (scholarship REFUSED).

15/03/2018 – 21/05/2018
Contract of association at CERN (European Organization for Nuclear Research) as User

22/05/2017 – 21/05/2018
Contract of association at INFN (Istituto Nazionale di Fisica Nulceare)

27/06/2016 – 23/09/2016
Contract of association at CERN (European Organization for Nuclear Research) as Summer Student in the EP-SFT department

CERN, Geneva (CH)
Supervisors: Axel Naumann, Danilo Piparo

My project focused on writing entirely a ROOT class that has the aim of creating histograms from a TChain. The name of the class is TSimpleAnalysis and it is integrated in ROOT from the 6.08 release, with a python script that allows the usage of the class through the command line. (Link to the “TSimpleAnalysis” class (https://root.cern.ch/doc/master/classTSimpleAnalysis.html) and link to the “rootdrawtree” script (https://github.com/root-project/root/blob/master/main/python/rootdrawtree.py).

PARTICIPATION IN RESEARCH PROJECTS

2020 - today
Participation in the activities referred to the CSN-5 “ML_INFN” acronym (“ML_INFN”: end-to-end approach in the usage of Machine Learning for the research activities of INFN), as a member of the operative unit in Bologna (coordinated by Prof. D. Bonacorsi) with focus on: Machine/Deep Learning modelling, Machine Learning as a Service, predictive maintenance at INFN-CNAF.

PUBLICATIONS

Oral/Speaker: 1
L.Giommi, D. Bonacorsi, L. Rinaldi et al, *Towards Predictive Maintenance with Machine Learning at the INFN-CNAF computing centre*. Proceedings, International Symposium on Grids and Clouds (ISGC 2019). Taipei, Taiwan, March 31 - April 5, 2019. PoS(ISGC2019)003.

Oral/co-author: 5
L. Decker de Sousa, L. Giommi et al., *Big Data Analysis for Predictive Maintenance at the INFN-CNAF Data Center using Machine Learning Approaches*. Proceedings of the 25th Conference of Open Innovations Association FRUCT 2019, Helsinki, Finland. IEEE p. 448-451.

T. Diotalevi, L. Giommi et al., *Collection and harmonization of system logs and prototypal Analytics services with the Elastic (ELK) suite at the INFN-CNAF computing centre*. Proceedings, International Symposium on Grids and Clouds (ISGC 2019). Taipei, Taiwan, March 31 - April 5, 2019. PoS(ISGC2019)027.

D. Bonacorsi, V. Kuznetsov, L. Giommi et al., *Progress on Machine and Deep Learning applications in CMS Computing*. Proceedings, International Symposium on Grids and Clouds 2018 in conjunction with Frontiers in Computational Drug Discovery (ISGC 2018 & FCDD). Taipei, Taiwan, March 16-23, 2018. PoS ISGC2018 & FCDD (2018) 022.

V. Kuznetsov, T. Li, L. Giommi, D. Bonacorsi, T. Wildish, *Predicting dataset popularity for the CMS Experiment*. Proceedings, 17th International workshop on Advanced Computing and Analysis Techniques in physics research (ACAT 2016). Valparaiso, Chile, January 18-22, 2016. J.Phys.Conf.Ser. 762 (2016) no.1, 012048.

V. Kuznetsov, T. Wildish, D. Bonacorsi, L. Giommi, *Exploring patterns and correlations in CMS Computing operations data with Big Data analytics techniques*. Proceedings, International Symposium on Grids and Clouds (ISGC 2015): Taipei, Taiwan, March 15-20, 2015. PoS ISGC2015 (2015) 008.

Posters: 1

L. Giommi, D. Bonacorsi, V. Kuznetsov, *Prototype of Machine Learning "as a Service" for CMS Physics in Signal vs Background discrimination*. Proceedings, The Sixth Annual Large Hadron Collider Physics conference LHCP, Bologna, 4-9 June 2018. PoS LHCP2018 (2018) 093.

EDUCATIONAL ACTIVITIES

Tutoring

Winner of the call (protocol number 266052 of 29/10/2019) with a contract for the following tutor activities in the Electrical Energy and Information Engineering Department:

- FISICA GENERALE T-1 [cod. 27996] - [Sdoppiamento A-K] - [Modulo 1] Modulo 1 (Duration: from 20/11/2019 to 30/09/2020). ACCEPTED
- FISICA GENERALE T-1 [cod. 27996] - [Sdoppiamento L-Z] - [Modulo 1] Modulo 1 (Duration: from 20/11/2019 to 30/09/2020). REFUSED

Co-supervisor of Master Thesis in Physics

F. Minarini, *Anomaly Detection prototype for log-based Predictive Maintenance at INFN-CNAF Tier-1.* (2019)

Outreach activities

European night of researchers 2019 (Bologna). Artificial Intelligence for High Energy Physics.

AWARDS AND PRIZES

20/10/2019

SOSC 2019 Diploma

Diploma obtained at the 3^{rd} International School on Open Science Cloud (SOSC 2019) that certifies I passed the final written exam.

05/06/2019

National prize "Giulia Vita Finzi" 2018

Winner of the INFN national competition announcement 20297 for the best INFN master thesis in the computing field (discussed during the period 01/06/2017 – 31/05/2018).

10/09/2012

Giuseppe Occhialini Foundation Scholarship (sixth classified)

"Scuola di Orientamento alle Facoltà Scientifiche"

CERTIFIED ATTENDANCES IN INTERNATIONAL SCHOOLS AND CONFERENCES

2020

- CERN openlab technical workshop (Geneva)

2019
- International Symposium on Grids & Clouds (ISGC) 2019 (Taipei, Taiwan)
- 3^{rd} IML Machine Learning Workshop, CERN (Geneva)
- Workshop CCR (Commissione Calcolo e Reti INFN) 2019: La Biodola
- LHCb/CERN & Microsoft Azure OpenHack (Trento)
- 3^{rd} International School on Open Science Cloud SOSC 2019 (Bologna)
- 1^{st} seminar of the PhD in Data Science and Computation (with the presentation of a poster)

2018
- 2^{nd} IML Machine Learning Workshop, CERN (Geneva)
- The Sixth Annual Large Hadron Collider Physics conference LHCP 2018 (Bologna)

2017 Summer School on Machine Learning for High Energy Physics (MLHEP) at Reading, England (organized by the Yandex school of data analysis)

2016 2^{nd} BCD International School on High Energy Physics at Cargese, Corsica (FR)

PERSONAL SKILLS

Mother tongue: Italian

Other languages

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	B2	B2	B2	B2	B2

Levels: A1/A2: Basic user - B1/B2: Independent user - C1/C2: Proficient user
Common European Framework of Reference (CEF) level

Computer skills
- Competences on Machine Learning (using scikit-learn, Tensorflow, Keras), learned during the thesis (Bachelor and Master) period, in specific schools of Machine Learning and in the Ph.D.
- Programming languages: Python, C++, R.
- Discrete knowledge of computer architecture, computing systems & infrastructures, cloud storage, containers, cloud automation, network connections, communication protocols, acquisition systems.
- Operative systems: macOS, Windows, Linux.
- Software: Docker, LaTex, PhotoShop, LabView.
- ECDL competences (ECDL certificate obtained in 2009): concepts of information technology, using computer and management file, word processing, spreadsheet, database, presentation tools, computer networks.
- Good competence on video editing (Sony Vegas, iMovie).

Other skills
- Made several hours of private lessons
- Attendance to Mathematics and Physics Olympics for several years
- I played basketball agonistically at regional level and volleyball agonistically at national level. Currently I play volleyball at a competitive level.

Driving licence: B

Autorizzo il trattamento dei miei dati personali ai sensi dell'art. 13 d.lgs. 30 giugno 2003 n◦196 – "Codice in materia di protezione dei dati personali" e dell'art. 13 GDPR 679/16 – "Regolamento europeo sulla protezione dei dati personali".

Bologna, 17/01/2020