

PERSONAL INFORMATION

Luca Fontanili



34, Borgo Riccio da Parma, 43121, Parma, Italy

+39 340 5434453

luca.fontanili93@gmail.com

[luca.fontanili](https://www.linkedin.com/in/luca.fontanili)

<https://github.com/lucafon>

Sex Male | Date of birth 22/01/1990 | Nationality Italian

WORK EXPERIENCE

Feb 2019-Present

Senior Engineer ML – Data Scientist

Cognitive Technology, Reggio Emilia

- R&D Process Mining

Business or sector Process Mining

Mar 2015-Jan 2019

Computer Engineer – Software Development Leader

Ubiq S.R.L. – SIA Group, Parma/Milan

- Software Development Leader, coordinator of the Back-End development team (5+ developers)
- Development of Back-End system of different mobile applications in association with Poste Italiane (Extra Sconti, 100K+ active users per month), CartaSi (CashLessCity), Nivea (ConTATTO NIVEA), Barilla (Mio Mulino) and Samsung
- Business Logic Manager of the project iCoop, in collaboration with Coop Italia. Manager of the Back-End development of the new couponing system within the iCoop mobile app
- R&D Big Data: Development of the Back-End system and REST Web Services of Ti Frutta, an iOS and Android mobile app, using Data Mining and Machine Learning techniques on Cloud platform. Development of advanced and optimized algorithms to detect products on images of receipts using NoSQL databases (Solr, HBase) and OCR algorithms to read text from pictures using advanced image pre-processing techniques
- R&D Machine Learning: Study and development of a predictive model that finds similarities between texts of different images using Text Mining and ML techniques
- R&D Computer Vision: Development of a server-side binarization algorithm of raw receipt images using different image processing approaches (edge-detection, features extraction, thresholding) using OpenCV in Python
- R&D Big Data: development of a reliable tool to import data from RDBMS to Hadoop ecosystem using Sqoop, Spark, Hive and Impala
- R&D Big Data: development of a data replication flow between different Solr instances using Flume and Python
- 3+ years' experience on Java 8, lambdas and Design Patterns
- Hands-on experience with Front-End solutions development using Extjs and HTML. Knowledge of web development tools such as Firebug
- Experience with JMS and Apache ActiveMQ message broker
- Development of software solutions following agile practices (Kanban) and using versioning control systems such as SVN and Git
- Experience with TDD development using Junit framework for unit testing both in Java and Python
- Hands-on experience with WordPress plug-ins development using JavaScript and PHP
- Hands-on experience with different Hadoop clusters (Cloudera and Ambari)

Business or sector Computer Engineering, Big Data, Machine Learning

Aug 2014-Feb 2015 Software Engineering Intern

Datalogic ADC Inc, 55 W Del Mar Blvd, Pasadena (CA)

- R&D Computer Vision: working on the parallelization of a Computer Vision algorithm (Zero Mean Normalized Cross-Correlation), using the NVIDIA CUDA framework on a GPU embedded in a SoC (Tegra K1)
- Development of testing programs for Computer Vision software solutions using Python

Business or sector Computer Vision

EDUCATION AND TRAINING

Sept 2012-March 2015 Master's Degree in Computer Engineering

QE07

University of Bologna, Bologna

- Computer Vision, Data Mining, Hadoop, IT security, AI, Java, C/C++, VHDL, Real-Time systems.

Thesis Development of parallel processing approach to compute Zero-mean Normalized Cross-Correlation. CUDA framework has been used to develop fast approach to detect characters in images, using Template Matching approach, based on Zero-mean Normalized Cross-Correlation measure.

Final Grade 110/110 with Honours

Sept 2009-July 2012 Bachelor's Degree in Computer Engineering

QE06

University of Parma, Parma

- Computer Science, Robotics, automatics, Computer Graphics, software engineering, Java, C/C++

Thesis A Machine Learning project based on arm gesture recognition and humanoid imitation. Arm gestures are acquired by inertial motion sensors and modelled in an OpenGL 3D virtual space. A new method based on Functional Principal Component Analysis is used in MATLAB for both a supervised clustering of training data and gesture recognition. Recognized gestures are imitated by a small humanoid robot

Final grade 107/110

PERSONAL SKILLS

Mother tongue(s) Italian

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C2	C2	C2	C2	C1
TOEFL iBT, 99/120					

Levels: A1/2: Basic user - B1/2: Independent user - C1/2 Proficient user
Common European Framework of Reference for Languages

Communication skills

Good communication skills gained by holding public speeches about Machine Learning's topics together with the Data Science Group in Parma

Organisational / managerial skills

Excellent social/organisational skills acquired during my experience as Team Leader. During my time in Ubiquitous Computing I had to completely manage different projects with many clients, organizing work packages and distributing them across the team members.

Job-related skills

Knowledge of Design Patterns
 Programming languages: Java 7/8 (JMS, ActiveMQ broker, Hibernate, Kundera/HOM (HBase-Object-Mapper) ORM), Python, C/C++, CUDA (CuFFT), R, MATLAB
 IDE: IntelliJ, Eclipse, Microsoft Visual Studio, Jupyter, Zeppelin
 Technologies: non-relational DB (Solr, HBase), Hive, Zookeeper, MapReduce, HDFS, Impala, Sqoop, Nifi, Presto, Ambari, Flume, MySQL, LDAP, Wordpress
 Cloud Computing: AWS (S3, Glacier, EC-2) and GCP VMs
 Agile: Kanban, Jira, SVN, Git, Bitbucket

Computer skills

- Windows, Mac and Linux operating systems, Office, Command-Line, Putty

Other skills

- Sport: American Football, 4 years in the Parma Panthers, playing with American coaches and players. Participation in European Championship with the Italian National American Football team
- Development of projects of personal interest using latest mobile and web programming languages (Android, HTML, CSS, SQL, JavaScript, Python) and tools (Nutch crawler, SonarQube, Tesseract).

Driving licence

B (own car)

ADDITIONAL INFORMATION

Publications

Arm Gesture Recognition and Humanoid Imitation Using Functional Principal Component Analysis, J. Aleotti, A. Cionini, L. Fontanili, S. Caselli, IEEE/RSJ International Conference on Intelligent Robotics and Systems (IROS), Tokyo, November 2013

Honours and awards

Bronze medal of sporting merit given by CONI.

Certifications

Machine Learning, Stanford University, [Coursera](#), #FGYRSK7XD8XG
 Using Python for Research, Harvard University, [edX](#), #f079493d7801420388179e219e2a9d63
 Process Mining: Data Science in Action, TU/e, [Coursera](#), #R95WTVQ56CQS

Projects

Ti Frutta – The very first "cash back" app in Italy that allows the customer to earn by shopping

F Abbigliamento – development of the Fontanili Abbigliamento website using Wordpress CRM.

CV – Eye Detector: development of an eye detector in C++ based on Normalized Cross Correlation, robust to light variation

DSS – Hadoop: implementation in Apache Hadoop environment of the Distributed Solving Set algorithm for outlier detection in large distributed data sets, using the MapReduce model

Parma Panthers Official: development of the Android official application of the Parma Panthers, the American Football team 4 times champion of Italy in the main championship

PicoPic: VHDL project of a Peripheral Interface Controller for a stereo vision system on FPGA, with a 8 bit RISC microprocessor PicoBlaze

Wikiquote Search Engine: implementation of a web crawler for Wikiquote based on Apache Nutch and development of a Java search engine based on Apache Solr

[pysqoop](#): a Python package that lets you sqoop into HDFS data from RDBMS using Apache Sqoop (installable via pip)

Member & Speaker of the Data Science & AI Group in Parma

Other Artificial Intelligence and Machine Learning projects available at my [Git](#) repo.

Personal details

In compliance with the Italian legislative Decree no. 196 dated 30/06/2003, I hereby authorize you to use and process my personal details contained in this document.