

Curriculum vitae



Name	Mastrogiovanni Michele, PhD
Address	
Phone	
E-mail	
LinkedIn	https://www.linkedin.com/in/michele-mastrogiovanni/

Nationality	Italian
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Date of birth	
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Profile

	Senior Software Engineer with broad experience in agile development and huge passion for innovation. More than 15 years experience in IT with multiple teams. Actual working in IOTA Foundation: a company responsible for developing distributed ledger technology (DLT) in the crypto space. During my work in IOTA Foundation and Stonize I improved my development skills and the capability to solve complex integration problems using cutting edge technologies, working in crypto space. I worked with different blockchain technologies (IOTA, Algorand and Ethereum), eIDAS digital identities, WebRTC technology for audio streaming (I also launched an NFT collection: https://cryptolovelocks.com). I worked in the planning and deployment of infrastructure (DevOps), in designing and implementing services (backend/database integration), in containerizing workflows, deployment in production and monitoring.
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Work experience

• Date (from – to)	January 2023 - ongoing
• Company	ElerianAI
• Role	Solution Architect
• Responsibilities and Activities	<ul style="list-style-type: none">- In my current role, I serve as a key contributor to the development and enhancement of the ElerianAI stack's architecture. My responsibilities encompass preparing components for production deployment, with a keen focus on bolstering security measures and augmenting overall observability. I have successfully introduced advanced reporting mechanisms and middleware solutions, elevating the system's capabilities, performances and facilitating seamless integration with external systems.- A notable aspect of my contributions involves spearheading the integration of ElerianAI technologies with various SIP telephony operators. This initiative extends to fostering interoperability with external customers' systems, aligning our technology with their unique requirements and ensuring a cohesive and efficient collaboration.- My multifaceted role underscores my commitment to driving innovation, improving system robustness, and fostering strategic partnerships to propel the ElerianAI stack towards continued success in the ever-evolving technological landscape.

• Date (from – to)	October 2021 - January 2023
• Company	IOTA Foundation
• Role	Senior Software Engineer
• Responsibilities and Activities	<ul style="list-style-type: none">- Leading a software development team in Market Adoption (7 members)

		<ul style="list-style-type: none"> - Driving creation of Cloud Native solutions out of IOTA microservices - Design, implement and support DevOps team in creating a self service platform (AWS + Kubernetes + Docker) - Code Review of Junior Developers, Mentoring, Software Development, - Infra teams coordination (UI, Security, Core technologies...) - Reference in discussion on top of EU projects (Secant, - Important contribution in UE project EBSI (European Blockchain Service Infrastructure): creation of a Kubernetes Operator, testing, support infrastructure and software development. - Development of L1 Smart contracts via Golang scripting.
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• Date (from – to)	October 2020 - October 2021
• Company	Stonize
• Role	CTO
• Responsibilities and Activities	<ul style="list-style-type: none"> - Design and development of a platform to manage a transparent securitization workflow leveraging Algorand blockchain and eIDAS digital identities. - Design and development of frontend/backend, design and deployment of infrastructure for platform: SPV workflow, blockchain notarization, batch data analysis, federation with eIDAS node for digital identities (Italian SPID), integration of external Certification Authority's services for remote digital signature and KYC, creation of a showcase of financial data and assets. - Collaboration with Algorand community and winner of a development grant for a project aimed to simplify provisioning of Algorand nodes. - Design and development of a progressive web app for an entertainment audio-only social network targeted for generation-Z (flow: https://flow.stonize.com/). This project was realized using the WebRTC standard. Design and development of frontend/backend and infrastructure - Creation of a NFT collection on Ethereum Mainnet developing a Solidity smart contract compatible with Zora's API and marketplace and OpenSea marketplace: https://cryptolovelocks.com/ <ul style="list-style-type: none"> - Design and development of backend/frontend, design and deployment of infrastructure

• Date (from – to)	August 2019 - August 2020
• Company	Ospedale Pediatrico Bambino Gesù
• Role	Freelance Researcher
• Responsibilities and Activities	<ul style="list-style-type: none"> - Research on survival of Glioma patients using CNN: Software developed in python using Tensorflow 1.5 and 2 - Comparison study on how much brain parcelization affects feature extraction algorithms. - Support the migration of some scientific tools for neuroimaging on Docker and Kubernetes.

• Date (from – to)	October 2018 - October 2020
• Company	Konica Minolta
• Role	Software Architect
• Responsibilities and Activities	<ul style="list-style-type: none"> - Support to multiple international teams (Bazil, Czech Republic, Japan) in migration of legacy architecture into a Cloud Native Architecture (mainly based on Docker and Kubernetes). - Writing of technical documents about architectures. - Writing of technical specification for implementation for multiple Development team - Driven the creation of missing part in Infrastructure (CI/CD pipeline, monitoring) - Lecturer for workshop about kubernetes and docker - Vertical creation of PoC around Traceability, Provisioning of Resources, Simplification of Kubernetes deployment. - Contributed to documentation of open source (Google founded) KubeFlow project for Machine Learning pipelines - Working using Scaled Agile methodology

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• Date (from – to)	September 2017 - October 2018
• Company	Hotels.com And Expedia Group
• Role	Senior Developer
• Responsibilities and Activities	<p>Develop and manage Suggest and Resolve components, part of Hotels.com Core Services. All services are dockerized.</p> <p>I worked on the ingestion Job as well as Suggest and Resolve services.</p> <p>Both run in an highly distributed environment on top of Solr and Cassandra (Datastax Enterprise):</p> <ul style="list-style-type: none"> - Worked on Solr text search engine customization: best known match, misspellings, tokenization in general, boosting, creation of fallbacks. - Part of Agile team (Kanban): definition on new DSE architecture, work on services migration, split stories. - Attend courses in Scala and Python, tensorflow, keras, pandas, Jupyter. - Attend a course in Machine Learning and Deep Learning. - Worked with Databricks notebooks to perform Analytics and Data Science tasks in a clustered and distributed environment to manager BigData; Apache Spark infrastructure. Creation of ML pipeline, Apache Spark ML services. - Worked a on migration to AWS services on kubernetes, lambda function

• Date (from – to)	November 2011 - September 2017
• Company	Engineering S.p.A. Ministero Economia e Finanze
• Role	Senior Software Developer and Team Leader
• Responsibilities and Activities	<p>Design and implementation of PCC platform (http://credicommerciali.mef.gov.it), a scalable infrastructure able to manipulate financial data, accounting of e-invoices (http://www.fatturapa.gov.it), payment for Bank of Italy (https://it.wikipedia.org/wiki/Banca_d'Italia) in parallel from multiple sources (Interchange System: SDI, SICOGE, SIOPE, SIDI, massive batch processing of CSV and a web frontend. The load supported by the system is greater than 2,5m e-invoice to ingest per month.</p> <ul style="list-style-type: none"> - Interaction with stakeholders (Sogei) and with italian Government Manager to drive gathering of requirements and check their feasibility. - Established coding best practice, development guideline, testing methods (JBehave, SeleniumHQ, SpringTest) of the development teams. - Established an internal software development methodology: Agile (Kanban, light-Scrum) via Jira support. - Design and development of a customized clustered, multithreaded solution for processing data flows (30k e-invoice per day, 10k accountable actions per day). - Design and development of an extensible and scalable accounting system based on open source expert system Drools (to write business rules) to improve parallelization and reduce response time. - Design the backend business layer and contributing to its development - Realization of complex business rules to coordinate external government web services InfoCamere, Entratel (Economy Ministry), CBI (Inter-Bank Consortium) as well as custom stakeholder products: Oracle, PkCube (digital signature), Axway (massive FTP). - Setup ALM environment (Subversion, Maven3, Jenkins, Jira with Kanban support, SonarCube with custom rule profile and code quality KPI) pushing the adoption of those open source standards at company level. - Design of first level service desk internal web application, tutoring and mentoring about the instruments.

• Date (from – to)	September 2010 - October 2010
Company	Engineering S.p.A. Autostrade S.p.A
• Role	Software Developer
• Responsibilities and Activities	In this project I collected requirements, designed and developed the porting of an ancient Cobol

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		software to compute weighted and constrained shortest paths on highways for tolling in C++. Final algorithm implemented, running on a simple Linux machine with 4 cores was able to outperform the previous solution of a factor of 100.
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• Date (from – to)		2009 to 2011
Company		Engineering S.p.A. Filas
• Role		Senior Developer
• Responsibilities and Activities		<p>As a full stack software developer, I designed, coordinated and developed the team of the Lazio Futouring portal (http://www.futouring.it).</p> <ul style="list-style-type: none"> - Designed the architectural organization in modules of the architecture. - Integration indexing of document with Solr (http://lucene.apache.org/solr/) - Integration Ontoir (Ontology Information Retrieval: http://sourceforge.net/projects/ontoir/) for semantic search (using RDF standard: https://www.w3.org/RDF/) - Integration of OpenStreetMap mapping services (http://www.openstreetmap.org) and created a local replica of its GIS Repository. - Realization of a batch to massive import POI and RDF using Solr (to setup the initial ontology archive). - Implementation connectors for Fedora Commons as a digital library (http://www.fedora-commons.org). - Development portlets for Liferay using database PostgreSQL

• Date (from – to)		January 2009 - November 2009
Company		Università di Roma, La Sapienza Filas
• Role		Researcher
• Responsibilities and Activities		<p>Developed a complete system for structural monitoring of highway tunnels.</p> <p>Inside this project I realized a complete sensor network to monitor in real time the pressure of concrete on the wall of an highway tunnel close to Roma (Italy). I designed the system, implemented the MAC layer stack for sensor network for eyesIFXv2 sensor node platform (IRIS), designed and implemented the Java communication system to gather informations outside the tunnel (JAMES)</p>

• Date (from – to)		2007 - 2008
Company		Università di Roma, La Sapienza
• Role		Researcher
• Responsibilities and Activities		Developed and evaluated the performance of a network stack for heterogeneous wireless sensor networks

• Date (from – to)		2006 - 2007
Company		Università di Roma, La Sapienza
• Role		Researcher
• Responsibilities and Activities		Developed an integrated solution for wireless sensor networks ad-hoc and PAN. The work was financed by MIUR (http://www.miur.it/) by means of investments on base research FIRB.

• Date (from – to)		2004 - 2006
Company		Università di Roma, La Sapienza
• Role		Researcher
• Responsibilities and Activities		Worked on developer and performance evaluation of hierarchical solutions for large scale ad-hoc and sensor

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		networks.
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• Date (from – to)	2004 - 2005
Company	Università di Roma, La Sapienza
• Role	Researcher
• Responsibilities and Activities	Participated in the European project "IST Eyes" (http://www.eyes.eu.org). In this project I designed and developed the hardware of a sensor-node prototype (http://capsil.org/capsilwiki/index.php/EyesIFXv2) and its complete network protocol stack. The sensor-node developed inside this project became one of reference platform to experimental activities on sensor networks (sensor node Eyes IFXv2)

• Date (from – to)	January 2003 - January 2004
Company	S-Lab Italia S.R.L.
• Role	Developer
• Responsibilities and Activities	Development of video-on-demand solutions inside the Ecod project. Development a Peer to Peer movie exchange system using Jxta

Education and Training

• Date	June 2015
• School / Institute	Coursera: https://www.coursera.org/
• Course	Principles of Reactive Programming

• Date	April 2015
• School / Institute	Coursera: https://www.coursera.org/
• Course	Functional Programming Principles in Scala

• Date	October 2015
• School / Institute	Scuola di Formazione Engineering ICT "Della Valle"
• Course	Building Secure Software (J2EE, .NET, PHP) https://www.mindedsecurity.com/index.php/services/training/

• Date	March 2013
• School / Institute	Scuola di Formazione Engineering ICT "Della Valle"
• Course	Advanced Vaadin

• Date	March 2013
• School / Institute	Scuola di Formazione Engineering ICT "Della Valle"
• Course	Vaadin 7 Fundamental

• Date	March 2011
• School / Institute	Scuola di Formazione Engineering ICT "Della Valle"
• Course	Agile Methodologies for Application Development

• Date	November 2010
• School / Institute	Scuola di Formazione Engineering ICT "Della Valle"

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• Course	Development of Portlets in Java
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• Date	June 2010
• School / Institute	Scuola di Formazione Engineering ICT "Della Valle"
• Course	Service Oriented Architecture

• Date	May 2010
• School / Institute	Scuola di Formazione Engineering ICT "Della Valle"
• Course	Spring Framework

• Date	2004 - 2008
• School / Institute	University of Rome "La Sapienza"
• Course	PhD, Computer Science

• Date	2001 - 2004
• School / Institute	University of Rome "La Sapienza"
• Course	Laurea Degree cum Laude, Computer Science

Personal Skills and Competences

Mother Tongue	Italian
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Other Languages

	English
• Reading skills	Very good
• Writing skills	Very good
• Verbal skills	Fluent

Technical Skills and Competences	<ul style="list-style-type: none"> - <i>Architecture</i>: Docker, Minikube, Kubernetes - <i>Methodology</i>: GoF Design Patterns, Object Oriented Design, SOA, 12 factor app - <i>Technical practices and design principles</i>: TDD (Test Driven Development), Pair Programming - <i>Agile Techniques and activities</i>: Scrum, Kanban, UML - <i>Frontend</i>: node, Bootstrap, Svelte - <i>Programming Languages</i>: Go, nodeJS, Python, R, Typescript, C, C++, Java - <i>DevOps</i>: Terraform, Ansible - <i>Server, Database and Cache</i>: Nginx, MongoDB, MySQL/MariaDB, PostgreSQL, Cassandra (Datastax Enterprise), Apache Solr - <i>Software Build and Testing Tools</i>: Maven, SoapUI, JMeter, JUnit, JBehave, SeleniumHQ, Sonar, Jenkins - <i>BigData</i>: Hadoop, Scala, Apache Spark, Spark ML libraries, Databricks - <i>Service Creation tools</i>: Eclipse, IntelliJ, VisualStudio Code - <i>Software Versioning</i>: GIT - <i>Protocols</i>: SMTP, HTTP(S), SOAP - <i>Markup Languages and Formats</i>: XML, HTML, Json - <i>System Knowledge</i>: Linux, MacOSX
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Social Skills and Competences	<ul style="list-style-type: none"> - Effective written and oral communication with multiple levels of business and technical leadership - Negotiation/influence skills, analytical and leadership skills
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		<ul style="list-style-type: none"> - Communicate complex issues clearly and concisely - Conduction of effective presentations recognizing and respecting divergent views - Influencing for positive outcomes - Conflict resolution between people/groups with minimal noise. - Coaching and mentoring of developed solutions.
Organizational Skills and Competences		<ul style="list-style-type: none"> - Ability to follow the realization process of a software component from high-level design to implementation, focusing on performances, code quality and reusability. - Ability to work with business stakeholders to balance business and technical objectives and manifest these as clear, stable priorities for the team. - Lead website infrastructure area including external systems and services - Manage engineering teams using agile workflow. - Manage day-to-day activities of multiple teams - Ability to develop multithreaded/clustered solutions using standard technologies - Enforcing company guideline for security and code quality
Certifications		<ul style="list-style-type: none"> - Machine Learning, Coursera (Mar 2018) - Oracle Certified Master, Java EE 6 Enterprise Architect (October 2016) - Oracle Certified Expert, Java EE 6 Web Component Developer (February 2014) - Oracle Certified Professional, Java SE 6 Programmer (May 2011)