

Name

Surname

Gabriele Proietti Mattia

Postdoc Researcher in Engineering in Computer Science

1. Summary

I'm a Postdoc Researcher in Engineering in Computer Science, my research interests are: Fog and Cloud computing, distributed systems and algorithms, microservices, mobile applications and machine learning. I am also interested in any type of software development and sometimes also in hardware tinkering. I like making music and science in general.

2. Education

Sapienza University Of Rome
11.01.2019 - 01.24.2023

PhD In Engineering In Computer Science

THESIS

Cooperative Scheduling and Load Balancing techniques in Fog and Edge Computing

FINAL-MARK

Excellent

Sapienza University Of Rome
09.01.2017 - 07.22.2019

Master Of Science In Engineering In Computer Science

THESIS

P2PFaaS: a Framework for FaaS Load Balancing

FINAL-MARK

cum laude and honors programme

Sapienza University Of Rome
09.01.2014 - 07.20.2017

Bachelor Of Science In Engineering In Computer Science

THESIS

Servizio di messaggistica da terminale con interfaccia utente reativa

FINAL-MARK

cum laude

3. Academic

3.1 Appointments

POSTDOC RESEARCHER · SAPIENZA UNIVERSITY OF ROME DEPARTMENT OF COMPUTER, CONTROL AND MANAGEMENT ENGINEERING "ANTONIO RUBERTI" · ROME, ITALY · 11.01.2021 - 10.31.2023

Contract of 'Assegnista di Ricerca' for developing algorithms and solutions in green Edge and Fog Computing.

3.2 Publications

I am the author or coauthor of the following publications, for a total of 15 items.

C Conference Proceedings
10 items

A Journal Articles
5 items

2023

- A** Gabriele Proietti Mattia, Roberto Beraldi. P2PFaaS: A framework for FaaS peer-to-peer scheduling and load balancing in Fog and Edge computing. So wareX. DOI: <https://doi.org/10.1016/j.sox.2022.101290>.

2022

- C** Gabriele Proietti Mattia, Marco Magnani, Roberto Beraldi. A latency-levelling load balancing algorithm for Fog and Edge Computing. 25th ACM International Conference on Modeling, Analysis and Simulation of Wireless and Mobile Systems (MSWiM'22). DOI: 10.1145/3551659.3559048.
- C** Roberto Beraldi, Gabriele Proietti Mattia. On o -grid green solar panel supplied edge computing. 2022 IEEE 19th International Conference on Mobile Ad Hoc and Smart Systems (MASS) (IEEE MASS 2022). DOI: 10.1109/MASS56207.2022.00125.
- C** Gabriele Maiorano, Gabriele Proietti Mattia, Roberto Beraldi. Local and remote fog based trade-o s for QOE in VR applications by using CloudXR and Oculus air link. International Conference on Edge Computing and Applications (ICECAA 2022). DOI: 10.1109/ICECAA55415.2022.9936495.
- C** Gabriele Proietti Mattia, Roberto Beraldi. On real-time scheduling in Fog computing: A Reinforcement Learning algorithm with application to smart cities. 2022 IEEE International Conference on Pervasive Computing and Communications Workshops and other A iliated Events (PerCom Workshops). DOI: 10.1109/PerComWorkshops53856.2022.9767498.
- A** Roberto Beraldi, Claudia Canali, Riccardo Lancellotti, Gabriele Proietti Mattia. On the impact of stale information on distributed online load balancing protocols for edge computing. Computer Networks. DOI: <https://doi.org/10.1016/j.comnet.2022.108935>.


2021

- C** Gabriele Proietti Mattia, Roberto Beraldi. Leveraging Reinforcement Learning for online scheduling of real-time tasks in the Edge/Fog-to-Cloud computing continuum. 2021 IEEE 20th International Symposium on Network Computing and Applications (NCA). DOI: 10.1109/NCA53618.2021.9685413.
- C** Gabriele Proietti Mattia, Roberto Beraldi. A study on real-time image processing applications with edge computing support for mobile devices. 2021 IEEE/ACM 25th International Symposium on Distributed Simulation and Real Time Applications (DS-RT). DOI: 10.1109/DS-RT52167.2021.9576139.
- A** Taif Alawsy, Gabriele Proietti Mattia, Zainab Al-Bawi, Roberto Beraldi. Smartphone-based colorimetric sensor application for measuring biochemical material concentration. Sensing and Bio-Sensing Research. DOI: <https://doi.org/10.1016/j.sbsr.2021.100404>.
- C** Gabriele Proietti Mattia, Roberto Beraldi. Towards Testbed as-a-Service: design and implementation of an unattended SoC cluster. 2021 International Conference on Computer Communications and Networks (ICCCN). DOI: 10.1109/ICCCN52240.2021.9522323.

2020

- A** R. Beraldi, G. Proietti Mattia. Power of random choices made e icient for fog computing. IEEE Transactions on Cloud Computing. DOI: 10.1109/TCC.2020.2968443.
- C** R. Beraldi, C. Canali, R. Lancellotti, G. Proietti Mattia. A Random Walk based Load Balancing Algorithm for Fog Computing. 2020 Fi h International Conference on Fog and Mobile Edge Computing (FMEC). DOI: 10.1109/FMEC49853.2020.9144962.
- A** Roberto Beraldi, Claudia Canali, Riccardo Lancellotti, Gabriele Proietti Mattia. Distributed load balancing for heterogeneous fog computing infrastructures in smart cities. Pervasive and Mobile Computing. DOI: 10.1016/j.pmcj.2020.101221.
- C** Roberto Beraldi, Claudia Canali, Riccardo Lancellotti, Gabriele Proietti Mattia. Randomized load balancing under loosely correlated state information in fog computing. 23rd ACM International Conference on Modeling, Analysis and Simulation of Wireless and Mobile Systems (MSWiM'20). DOI: 10.1145/3416010.3423244.

2019

-  Roberto Beraldi, Gabriele Proietti Mattia. A randomized low latency resource sharing algorithm for Fog Computing. 2019 IEEE/ACM 23rd International Symposium on Distributed Simulation and Real Time Applications (DS-RT) (DS-RT'19). DOI: 10.1109/DS-RT47707.2019.8958709.

3.3 Teaching

2021/2022

Sistemi di Calcolo 2 (SC2) (Teaching Assistant) [6 ECTS/CFU - ING-INF/05] (10.01.2021 - 07.31.2022). BSc in Computer Engineering and Automation - Sapienza University of Rome.

2020/2021

Advanced Operating Systems and Virtualization (AOSV) (Adjunct Professor) [3 ECTS/CFU - ING-INF/05] (02.22.2021 - 02.28.2022). MSc in Engineering in Computer Science - Sapienza University of Rome.

Sistemi di Calcolo 2 (SC2) (Teaching Assistant) [6 ECTS/CFU - ING-INF/05] (10.01.2020 - 07.31.2021). BSc in Computer Engineering and Automation - Sapienza University of Rome.

3.4 Funding Information

Resource allocation and scheduling strategies based on Reinforcement Learning in Green Edge Computing (11.09.2021 - 11.09.2022) [2.996€]. Progetto di Avvio alla Ricerca - Tipo 2 financed by Sapienza University of Rome. Role in the project: Project Investigator (PI).

A Novel Vision-based detection system for the control of the ectoparasitic mite Varroa destructor in honey bee colonies (12.01.2021 - 12.31.2023) [12.000€]. Progetto di Ricerca (Piccoli, Medi) - Progetto Medi financed by Sapienza University of Rome. Role in the project: Member of the research unit.

Scheduling and Load Balancing strategies based on Reinforcement Learning in the Fog Computing environment (12.31.2021 - 12.31.2022) [1.300€]. Progetto di Avvio alla Ricerca - Tipo 1 financed by Sapienza University of Rome. Role in the project: Project Investigator (PI).

FogAware (12.01.2020 - 12.31.2023) [40.000K€]. Progetto H2020 - Collaborativi financed by Sapienza University of Rome. Role in the project: Member of the research unit.

3.5 Reviews

- CMC-Computers, Materials & Continua ([CMC 2023](#)).
- The 25th ACM International Conference on Modeling, Analysis and Simulation of Wireless and Mobile Systems ([MSWiM 2022](#)).
- Journal of Grid Computing ([jgc 2022](#)).
- The 24th ACM International Conference on Modeling, Analysis and Simulation of Wireless and Mobile Systems ([MSWiM 2021](#)).
- The 25th International Symposium on Distributed Simulation and Real Time Applications ([DS-RT 2021](#)).
- IEEE International Conference on Mobile Ad Hoc and Sensor Systems ([MASS 2021](#)).
- International Conference on Applied Social Computing and Communication Networks ([ACN 2020](#)).
- The 23rd ACM International Conference on Modeling, Analysis and Simulation of Wireless and Mobile Systems ([MSWiM 2020](#)).
- The 22nd ACM International Conference on Modeling, Analysis and Simulation of Wireless and Mobile Systems ([MSWiM 2019](#)).

3.6 Scientific Achievements

Metric	Scopus	Google Scholar
Total Citations	50	89
Average Citations per Product	3.57	5.93
Hirsch (H) index	4	5

Metric	Scopus	Google Scholar
Normalized H index	1.34	1.67

4. Work Experience

SOFTWARE ENGINEER · DEPARTMENT OF COMPUTER, CONTROL AND MANAGEMENT ENGINEERING "ANTONIO RUBERTI", SAPIENZA UNIVERSITY OF ROME · ROME, ITALY · 09.20.2021 - 09.21.2022

Contract for the further developing of the web platform A.R.I.A. that automates publication databases tasks between IRIS, Scopus and Web Of Science. The platform will be extended from the department to the whole University. Languages and frameworks used: Angular, Go, MongoDB.

LECTURER · SAIP FORMAZIONE S.R.L. · ROME, ITALY · 06.21.2022 - 07.12.2022

Course on Virtual (VR) and Augmented Reality (AR) for Industry 4.0.

RESEARCH SCHOLARSHIP · DEPARTMENT OF COMPUTER, CONTROL AND MANAGEMENT ENGINEERING "ANTONIO RUBERTI", SAPIENZA UNIVERSITY OF ROME · ROME, ITALY · 07.01.2019 - 10.31.2019

The research is aimed to analyze and evaluate of the department's scientific production, and had as a final result the implementation of A.R.I.A. (Academic Research Information Assistant) [available at aria.diag.uniroma1.it] a complete web platform that allows to automate periodic tasks that deal with publications databases. The platform that I developed uses: Angular, Go and MongoDB.

SCHOLARSHIP @ LIBRARY · DEPARTMENT OF COMPUTER, CONTROL AND MANAGEMENT ENGINEERING "ANTONIO RUBERTI", SAPIENZA UNIVERSITY OF ROME · ROME, ITALY · 02.01.2017 - 05.09.2019

Scholarship at Department's library.

5. Qualifications

Sapienza Università Di Roma	Professional Qualification As Information Engineer
01.16.2020	I got the professional habilitation as Information Engineer (LM32) by having passed the Italian State Exam.

6. Awards

Cyberchallenge.it	3rd Place In CTF Challenge
06.01.2017	I gained the 3rd place with my team DropTable to the Cyberchallenge final CTF contest. Rome, Italy

7. Skills

Web Development: Advanced
HTML · CSS · Javascript · PHP · Webpack

Programming Languages: Advanced
C · Python · Kotlin · Java · Go

Functional Languages: Good
Scala

Windows Developing: Good

C# · .NET

Containerization: Advanced
Docker · Docker Compose · Docker Swarm · Kubernetes

Database Management: Advanced
SQL · Postgres · MongoDB

Malware Analysis: Good
IDA Pro · xdbg · Symbolic Execution · Assembly

Web Front-end Frameworks: Advanced

Angular · Vue · React · React Native

Android Developing: Advanced

Android Studio · Kotlin · Gradle

Android AOSP Developing: Very Good

Google Repo · AOSP Tree Management · Kernel Developing

Documents and Presentations: Advanced

LaTeX · Apple Keynote · Google Docs

Graphic: Good

Sketch · Adobe Illustrator · Adobe Photoshop

8. Languages

Italian: Native speaker

English: Advanced

A live copy of this résumé is available on gpm.name/resume/

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