

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	Cooperative Scheduling and Load Balancing techniques in Fog and Edge Computing <small>FINAL-MARK</small> Excellent
Sapienza University Of Rome 09.01.2017 - 07.22.2019	Master Of Science In Engineering In Computer Science <small>THESIS</small> P2PFaaS: a Framework for FaaS Load Balancing <small>FINAL-MARK</small> cum laude and honors programme
Sapienza University Of Rome 09.01.2014 - 07.20.2017	Bachelor Of Science In Engineering In Computer Science <small>THESIS</small> Servizio di messaggistica da terminale con interfaccia utente reativa <small>FINAL-MARK</small> cum laude

3. Academic 3.1 Appointments

PhD In Engineering In Computer Science
THESIS

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

A Journal Articles

10 items

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. SowardX. DOI: <https://doi.org/10.1016/j.soxx.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-offs 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 Affiliated 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 Alawsi, 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 efficient 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 Fih 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

C 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€]. Progeio di Avvio alla Ricerca - Tipo 2 inanced 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€]. Progei di Ricerca (Piccoli, Medi) - Progei Medi inanced 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€]. Progeio di Avvio alla Ricerca - Tipo 1 inanced by Sapienza University of Rome. Role in the project: Project Investigator (PI).

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

3.5 Reviews

CMC-Computers, Materials & Continua ([CMC 2023](#)).

The 25nd ACM International Conference on Modeling, Analysis and Simulation of Wireless and Mobile Systems ([MSWiM 2022](#)).

Journal of Grid Computing ([jgc 2022](#)).

The 24nd 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 So Computing and Communication Networks ([ACN 2020](#)).

The 23nd 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 Sciencic Achievements

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

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 sciencic production, and had as a inal result the implementa- tion 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. Applications

Sapienza Università Di Roma

01.16.2020

6. Awards

Cyberchallenge.it

06.01.2017

7. Skills

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

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

Functional Languages: Good
Professional qualification As Information Engineer

I got the professional abilitation as Information Engineer
(LM32) by having passed the Italian State Exam.

3rd Place In CTF Challenge

I gained the 3rd place with my team DropTable to the
Cyberchallenge final CTF contest. Rome, Italy

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 **8.**

Languages

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

Italian: Native speaker English: Advanced Last update on Tuesday, Jan 31, 2023, 04:33

PM