

Gianmaria Del Monte

SOFTWARE ENGINEER

Geneva - Switzerland

☎ +41 078 225 24 27 | ✉ gianmaria.del.monte@cern.ch | 📄 github.com/gmgigi96

🌐 linkedin.com/in/gianmaria-del-monte-81575b162



Personal Profile

Diligent Software Engineer with passion of designing and developing **highly scalable software systems**. Excellent attention to details and problem solving, with an innate ability to learn and master new technologies. Experience in software development's life cycle, including **designing, coding, testing, delivery** and **maintenance**. Keen to use my skills to push the frontiers of science and technology.

Education

MEDILS

Thematic CERN School of Computing

- Held on *Security of research computing infrastructures*

Split, Croatia

2022

Rome Tre University

M.Sc. in Computer Engineering

- Thesis title: *Scaling blockchains without giving up decentralization and security*
- Thesis supervisor: Prof. Maurizio Pizzonia
- Final mark: 110/110 with honors

Rome, Italy

2019 - 2020

Rome Tre University

B.Sc. in Computer Engineering

- Thesis title: *Implementation of an efficient protocol for data integrity on Cloud*
- Thesis supervisor: Prof. Maurizio Pizzonia
- Final mark: 110/110 with honors

Rome, Italy

2016 - 2018

Work Experience

CERN

Software Engineer

- Proactively support and maintain the CERNBox software ecosystem to provide a highly reliable service for more than 37K users, holding 18PB of data
- Design, implementation and deployment of a new backup system for CERNBox/cephfs (24/7, 600M daily file ingest)
- Engagement with the open source community (Reva) to provide various bug-fixes and major enhancements (Lock APIs, federated shares)
- Ensuring day-to-day operational activities are carried out in a timely and reliable way
- Supervision of a summer student to implement self-restore functionalities to address user community demand
- Coordination among other team members of successful delivery of service improvements, specially on the server side
- Support CERN IT Security Team as second line member to ensure Organization security
- **Technical Skills:** Go, Python, CentOS, Puppet, Bash, Git, MySQL, gRPC, REST APIs, EOS, distributed systems

Geneva, Switzerland

Jan 2021 - Present

Roma Tre University

Teaching assistant

- Teaching assistant for Fundamentals of Computer Science course for the bachelor degree in Computer Engineering
- **Technical Skills:** Java, C, data structures and algorithms

Rome, Italy

Nov 2018 - Jul 2020

Roma Tre University

Software Engineer

- Designed and implemented a mobile app that streamlines every aspect of student life at Roma Tre University, like booking a spot in the library, scheduling exams and real-time notifications about lecture delays and cancellations
- **Technical Skills:** Java, Android

Rome, Italy

Oct 2019 - Nov 2019

Projects

R3busFormazione

Roma Tre University

- A web application to manage a training centre supporting local authentication and OAuth, automatically deployed on Heroku through CircleCI, realized in **Spring Boot** and **Java**

Rome, Italy

2018

Pipeline Integrity

Roma Tre University

Rome, Italy

2018

- Implemented an efficient protocol for data integrity on storage cloud services, realized with actor model, using **Akka Framework** and **Kotlin**

Skills

Programming Java, Go, Python, C, Dart, Kotlin

Miscellaneous Linux, Shell (Bash/Zsh), \LaTeX , Git, Spring, Flutter, MySQL, PostgreSQL, Redis, MongoDB, Puppet, Docker, Distributed storage systems (EOS), distribute programming, desing patterns, design architectures

Soft Skills Time Management, teamwork, problem solving, communication, positive attitude, self-supervising, team leadership

Achievements

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|------|---|-------|
| 2019 | 3rd place , Local competitions of CyberChallenge 2019 | Italy |
| 2019 | 4th place , National competitions of CyberChallenge 2019 | Italy |
| 2018 | Elite , <i>Luca Raso</i> scholarship for best students enrolled in Master's degree in Computer Engineering at Roma Tre University. | Italy |
| 2016 | Winner , Scholarship for best average grade in the Engineering Department of Roma Tre University. | Italy |

Publications

Scaling blockchains without giving up decentralization and security: A solution to the blockchain scalability trilemma

Gianmaria Del Monte, Diego Pennino, Maurizio Pizzonia

Proceedings of the 3rd Workshop on Cryptocurrencies and Blockchains for Distributed Systems, 2020

Conferences

C(ERN) BACK(UP): consolidated multi-petabyte backup solution for heterogenous storage and filesystems

Gianmaria Del Monte, Elizaveta Ragozina, Roberto Valverde Cameselle

CS3 2023 - Cloud Storage Synchronization and Sharing, 2023, <https://indico.cern.ch/event/1210538/contributions/5207944>

Applications integration beyond local clouds with OCM

Giuseppe Lo Presti, Gianmaria Del Monte, Michiel De Jong

CS3 2023 - Cloud Storage Synchronization and Sharing, 2023, <https://indico.cern.ch/event/1210538/contributions/5206694>

Evolution of the CERN Backup system based on RESTIC and the CERN Tape Archive (CTA)

Fons Rademakers, Gianmaria Del Monte

26TH INTERNATIONAL CONFERENCE ON COMPUTING IN HIGH ENERGY AND NUCLEAR PHYSICS - CHEP2023, 2023, <https://indico.jlab.org/event/459/contributions/11294/>

User-friendly OCM Invitation and Sharing: OCIS, CERNBox

Elizaveta Ragozina, Gianmaria Del Monte, Samuel Alfageme Sainz

CS3 2023 - Cloud Storage Synchronization and Sharing, 2023, <https://indico.cern.ch/event/1210538/contributions/5208014>

CERNBox backup evolution

Gianmaria Del Monte, Roberto Valverde Cameselle

6th EOS workshop, 2022, <https://indico.cern.ch/event/1103358/contributions/4758282>

Data safety in CERNBox

Gianmaria Del Monte

CERNBox User Forum, 2021, <https://indico.cern.ch/event/1067354/contributions/4646494/>

Visualizing physics data in ownCloud Infinite Scale

Gianmaria Del Monte

ownCloud Conference, 2021, <https://cfp.owncloud.com/occon2021/talk/W8KHKM>

Languages

English Professional proficiency

Italian Native proficiency

French Basic knowledge