

Alberto Maria Mongardini

Curriculum Vitae

Education

- 2021–2024 **Ph.D. in Computer Science**, *University of Rome, Sapienza*.
Title: In Pursuit of Deception: A Journey through Fake Channels, Conspiracies, Wash Trading, and Stealth Addresses. Supervisor: Alessandro Mei.
- 2019–2020 **Master in Computer Science**, *University of Rome, Sapienza, 110/110 cum laude*.
Title: Obfuscation techniques against clustering of scientific documents. Supervisors: Luigi Vincenzo Mancini, Alessandro Mei, Sushil Jajodia.
- 2016–2018 **Bachelor in Computer Science**, *University of Rome, Sapienza, 110/110 cum laude*.
Title: Development of the Pollit back end and its administrative portal. Supervisor: Alessandro Mei.
- 2010–2014 **Classical education degree**, *Liceo classico Lucrezio Caro, 100/100*.

Experience

- 2023 **Visiting researcher**, GEORGE MASON UNIVERSITY, USA, Apr 2023 - Oct 2023,
Host: Prof. Giuseppe Ateniese.
The visit focused on algorithmic, cryptographic, and IA-based approaches for anonymity and privacy in blockchains.
- 2023 **Speaker**, HONG KONG, Speaker of the paper: "A Game of NFTs: Characterizing NFT Wash Trading in the Ethereum Blockchain" for ICDCS '23.
- 2023 **Winter school**, NORTHERN LIGHTS DEEP LEARNING CONFERENCE 2023. (NLDL'23), Tromsø, Norway.
The winter school comprised a 5-day course that delved into tutorials focusing on various aspects of deep learning, including Synthetic Data, Generative Models, and Explainability. In addition, the course featured keynote talks and special sessions on industry applications and diversity in AI.
- 2021 **Member of the research group**, COMPUTER SCIENCE DEPARTMENT OF SAPIENZA UNIVERSITY, Roma, ARCHEM Call: Development of neural networks for the recognition of museum works.
The project, in collaboration with the Lazio Region, consisted of designing and developing a mobile application to enhance the experience offered to museum visitors. Specifically, a Machine Learning model for Artwork Detection and Recognition was built and integrated into the application. For developing such a model, Pytorch was chosen as the framework, and YOLO v5 and Resnet101 networks as the starting models for Image Detection and Image Recognition, respectively. Finally, TorchScript was used to integrate the final models into the application.

- 2020 **Scholarship**, SYSTEMS LAB, Roma.
Implementation of the back-end service of an Android application used for indoor navigation in augmented reality. The back-end service was provided through Cloud solutions involving Google App Engine, Firebase, and Google Cloud Storage.
- 2019 **Summer school**, BILLION USER CLOUD APPLICATIONS(*BUCA 2019*).
The summer school focused on exploring cloud computing solutions that can handle applications even with billions of users. Specifically, classes were taught by engineers from Google.
- 2018 **Internship**, RFID LAB, Roma.
Implementation of the back-end service and the administrative portal of an Android application for real-time surveys. Cloud solutions such as Google App Engine and Firebase have been adopted for the back-end, while the administrative portal was realized using Java Script, HTML5, and CSS.

Publications

- T-IFS 2024 **IEEE Transactions on Information Forensics and Security**, *DARD: Deceptive Approaches for Robust Defense against IP Theft*, **Alberto Maria Mongardini**, Massimo La Morgia, Sushil Jajodia, Luigi Vincenzo Mancini, Alessandro Mei.
- USENIX 2024 **USENIX Security Symposium**, *The Conspiracy Money Machine: Uncovering Telegram's Conspiracy Channels and their Profit Model*, Vincenzo Imperati, Massimo La Morgia, Alessandro Mei, **Alberto Maria Mongardini**, Francesco Sassi; Accept Conditional on Major Revision .
- TWEB 2024 **ACM Transactions on the Web**, *Pretending to be a VIP! Characterization and Detection of Fake and Clone Channels on Telegram*, Massimo La Morgia, Alessandro Mei, **Alberto Maria Mongardini**, and Jie Wu, Accepted with Minor Revisions.
- ICWS 2023 **IEEE International Conference on Web Services - IEEE ICWS '23**, *It's a Trap! Detection and Analysis of Fake and Clone Channels on Telegram*, Massimo La Morgia, Alessandro Mei, **Alberto Maria Mongardini**, and Jie Wu.
- ICDCS 2023 **IEEE 43th International Conference on Distributed Computing Systems - ICDCS '23**, *A Game of NFTs: Characterizing NFT Wash Trading in the Ethereum Blockchain*, Massimo La Morgia, Alessandro Mei, **Alberto Maria Mongardini**, and Eugenio Nemmi.
- CAAW 2023 **Companion Proceedings of the Web Conference - CAAW '23**, *Ready, Aim, Snipe! Analysis of Sniper Bots and their Impact on the DeFi Ecosystem*, Federico Cenera, Massimo La Morgia, Alessandro Mei, **Alberto Maria Mongardini**, and Francesco Sassi.

Awards

- 2023 **Grant for young researchers**, Winner of the grant "Progetti per Avvio alla Ricerca - Tipo 2 - 2023", funded by Sapienza University of Rome.
- 2023 **Grant for young researchers**, Winner of the grant "Bando mobilità internazionale PHD 2022", funded by Sapienza University of Rome.
- 2022 **Grant for young researchers**, Winner of the grant "Progetti per Avvio alla Ricerca - Tipo 1 - 2022", funded by Sapienza University of Rome.

- 2021 **ARCHEM**, *Development of neural networks for the automatic recognition of museum works*, Winner of a self-employment assignment for the ARCHEM project (Augmented Reality for Cultural Heritage in Etruria Meridionale), at the Department of Computer Science, University of Rome La Sapienza. Code: ICE 14/2021.
- 2020 **Ph.D. Fellowship**, *Winner of 3-year doctoral fellowship at the Department of Computer Science, University of Rome La Sapienza, XXXVI cycle.*
- 2019 **Google BUCA 2019**, *Google BUCA 2019 scholarship winner. The summer school was held by Google engineers and focused on exploring cloud computing solutions that can handle applications even with billions of users..*

Academic services

- 2023 **ICWSM 2024**, *Reviewer at 17TH International AAAI Conference on Web and Social Media.*
- 2022 **The Web Conference 2023**, *Subreviewer at the Web Conference 2023.*
- 2022 **CoNEXT 2022**, *Technical staff at International Conference on emerging Networking EXperiments and Technologies 2022.*

Development projects

- 2020 **Rescue Me**, *Fall detection application.*
Application for smartwatches that implements an interactive multimodal system for fall detection through speech recognition and motion detection. To perform speech recognition, the Kaldi library has been adopted as a solution, while for motion detection has been developed an algorithm using the device's accelerometer. (Python, Android Wear OS)
- 2020 **DerainNet Revamped**, *Deep Learning and Computer Vision Approach to Rain Removal.*
Design and development of a machine learning model that, through the combined use of Deep Learning and Computer Vision techniques, allows to remove rain from the images. In particular, the Convolutional Neural Network of the DerainNet project has been taken and combined with a Computer Vision approach to clean the image more and, at the same time, preserve the details. (Python, OpenCV, TensorFlow)
- 2020 **ForgeViz**, *Visualizing the effects of adversarial examples techniques.*
Design and implementation of a tool for visualizing obfuscation effects obtained against different clustering algorithms by modifying a document repository through adversarial examples techniques.(Javascript, D3.js, Bootstrap, Python)
- 2019 **Follow Me**, *AR application for indoor navigation.*
Smartphone application that provides indoor navigation directions using augmented reality. To obtain a sufficiently precise location of users within a building, the use of Beacon technology was chosen. (Java, Android, Wikitude)

Languages

Italian

English