

Francesco Sassi

Education

- 2020 – 2024 **PhD in Computer Science**, *Sapienza University of Rome*, Italy.
Summa cum Laude
- 2019 – 2020 **Master degree in Computer Science**, *Sapienza University of Rome*, Italy.
Summa cum Laude
- 2015 – 2018 **Bachelor degree in Computer Science**, *Sapienza University of Rome*, Italy.
Summa cum Laude

Work and Research Experience

- 2024 **Digital Engineering**, *Telespazio*.
Integration of cutting-edge AI models into the video stream captured by Unmanned Aerial Vehicles (UAVs). This involved working at the intersection of artificial intelligence, computer vision, and UAV technology to develop advanced solutions for real-time video processing.
- 2023-2024 **Phd in Computer Science**, *Sapienza University of Rome*.
Thesis title: Uncovering threats in digital systems: a deep dive into BGP, the blockchain, and Telegram. Advisor: Alessandro Mei
- 2019-2020 **RFID Lab, Department of Computer Science**, *Research fellowship*, Rome.
Design and development of an Android application for indoor navigation with integrated augmented reality features and the integration and testing of speech recognition algorithms.
- 2018 **RFID Lab, Department of Computer Science**, *Internship*, Rome.
Design and implementation of tools to gather exchange trading data. The collected data was used to develop machine learning models to identify a particular type of fraud.

Other research contracts

- 2020 **ARCHEM: Software for system analytics**, *Winner of a self-employment assignment for the ARCHEM project, at the Department of Computer Science, University of Rome La Sapienza. Code: ICE 12/2020.*
- 2020 **Research Fellowship**, *Winner of a one year research fellowship at the Department of Computer Science of Sapienza University of Rome. Code: BS-junior N.008/2019.*

Grants and Awards

- 2021 **Grant for young researchers**, *Winner of the grant "Progetti per Avvio alla Ricerca - Tipo 1 - 2021", funded by Sapienza University of Rome, Principal Investigator.*
- 2020 **PhD Research Scholarship**, *Winner of 3-year doctoral fellowship at the Department of Computer Science, University of Rome La Sapienza, XXXVI cycle.*
- 2019 **Google BUCA 2019**, *Winner of a scholarship for Google BUCA 2019.*
- 2019 **CMMRS 2019 Pre Doctoral School**, *Winner of a scholarship for the Max Planck Pre-doctoral Research School 2019.*

Projects

- 2021 **AI application to mechanical excavation performance prediction.**
This project consisted in designing and developing AI models for the prediction of performance of mechanical excavators (TBM) in cooperation with a large tunneling company. We achieve results comparable to the state-of-the-art using Long Short-Term Memory (LSTM).
- 2020 **OR6: integration and testing of speech recognition algorithms.**
The project aims to investigate Automatic Speech Recognition artificial intelligence methods for transcribing call center phone calls. I started with a literature review and a subsequent test of various commercial and open-source ASR solutions across different scenarios, including phone calls, podcasts, and videos.
- 2021 **Archem: Augmented Reality for Cultural Heritage in Etruria Meridionale.**
ARCHEM is a Regione Lazio-funded project under POR-FESR 2014-2020, involving the University of La Sapienza and industry partners. It aims to enhance tourism and protect the Civic Museum of Tolfa and the Taurine Baths of Civitavecchia using Beacon sensors, QR codes, augmented reality, machine learning, and 3D modeling.
- 2019 **Airmapp: an application for airport navigation with augmented reality.**
This project, in cooperation with a large Airport IT Solutions company, aimed to create an Android app for indoor navigation with augmented reality (AR) capabilities. The app uses a 3D arrow for navigation and enhances the environment with virtual buttons, images, and 3D character models for advertising, attracting users to stores and offering promotional codes.

Languages

- Italian First Language
English Fluent

Publications

- USENIX 2023 **Token Spammers, Rug Pulls, and SniperBots: An Analysis of the Ecosystem of Tokens in Ethereum and in the Binance Smart Chain (BNB)**, *F. Cernerla, M. La Morgia, A. Mei, and F. Sassi*, USENIX Security 2023, 2023.
- TUST 2023 **Artificial intelligence for tunnel boring machine penetration rate prediction**, *A Flor, F Sassi, M La Morgia, F Cernerla, F Amadini, A Mei, A Danz*, Tunnelling and Underground Space Technology, 2023.
- IDA 2023 **Translated Texts Under the Lens: From Machine Translation Detection to Source Language Identification**, *M. La Morgia, A. Mei, E. N. Nemmi, L. Sabatini, and F. Sassi*, Symposium on Intelligent Data Analysis, 2023.
- TOIT 2022 **The Doge of Wall Street: Analysis and Detection of Pump and Dump Cryptocurrency Manipulations**, *M. La Morgia, A. Mei, F. Sassi and J. Stefa*, ACM Transactions on Internet Technology, 2022.
- IMC 2021 **The parallel lives of Autonomous Systems: ASN Allocations vs. BGP**, *E. N. Nemmi, F. Sassi, M. La Morgia, C. Testart, A. Mei, and A. Dainotti*, ACM Internet Measurement Conference (2021), 2021.
- ICCCN 2020 **Pump and Dumps in the Bitcoin Era: Real Time Detection of Cryptocurrency Market Manipulations**, *M. La Morgia, A. Mei, F. Sassi, and J. Stefa*, 29th International Conference on Computer Communication and Networks, 2020.