Eugenio Nerio **Nemmi**

language
Italian, English
advanced

programming languages
Python, Sklearn, Java

more
Linux, Pandas,
MongoDB

Education

today	**Postdoc** in Computer Science	Sapienza University of Rome

Blockchain and internet measurement.
Winner of 'Dipartimento di Eccellenza' grant.
Winner of 'Avvio alla ricerca 2022' grant.

2018-2022	**PhD** in Computer Science	Sapienza University of Rome

Web privacy, de-anonimization, user profiling and internet measurement.
Winner of 'Avvio alla ricerca 2019' grant.

2018	**MSc** in Computer Science	Sapienza University of Rome

110/110 with honors

2015	**BCs** in Computer Science	Sapienza University of Rome

Experiences

2023	**Teacher**	Sapienza University of Rome

Teacher, for a total of 3 CFUs, of the course "Informatica Generale" at the Department of Mathematics of Sapienza University of Rome. The goal of the course is to learn how to implement common algorithms and teach problem solving skill. The final project involves the development of a smart Hex player. All the students' Hex players partecipate in a tournament against each other. The programming language used throughout the course is c++.

2022 -	**Postdoc**	Sapienza University of Rome

I'm currently working on research topics on the blockchain, focusing on studying crypto-assets frauds.

2018-2022	**PhD**	Sapienza University of Rome

I worked mainly on privacy and security, using different techniques, among which Machine Learning and Deep Learning, to de-anonymize users thanks to the application of Natural Language Processing and Authorship Attribution techniques on social platforms. I also worked in the Internet measurement field, studying new approaches to detect BGP hijacks.

2019	**Python-MongoDB courses**	SWS Engineering

Teaching Python and MongoDB for 10 days in two different classes of students.

2016-2022	**SystemsLab Sapienza**	Sapienza University of Rome

I worked within the SystemsLab research group of the CS department of Sapienza. I have been involved with designing and programming Android applications, ticketing apps, drafting deliverables, and supervising projects. I also worked on web privacy.

Projects

	Intellcredit	SystemsLab Sapienza

I supervised the development of a software for the visualization of credit recovery trend parameters for Intellcredit S.P.A. and its data analysis.

ARCHEM   SystemsLab Sapienza

Augmented Reality for Cultural Heritage in Etruria Meridionale: POR FESR 2014-2020. Supervision of the development of the demo Android application. The application leverage AR technology to enhance museum visits.

Infantia@Digitales   SystemsLab Sapienza

INF@NZIA DIGI.tales 3.6, Smart Cities and Communities and Social Innovation, MIUR, 2014-2016. Design the prototype of a game board and its management software that recognize RFID TAGs position to develop childhood learning games.

Spai   SystemsLab Sapienza

Project Spai: Protecting Privacy in Internet Applications, Italian Ministry of Economic Development, 2015. Collaboration with MISE - Garante Privacy. I was involved in designing and developing a tool for verifying the correct implementation of the new Cookie Law by analyzing the cookies used by the sites and the presence of the appropriate banner.

Tiepolo   SystemsLab Sapienza

Mobile ticketing project with Almaviva. I worked on designing and developing three Android applications: one for sale, one for users, and one for controllers. The applications interact to create a single ecosystem for managing, controlling, and selling travel tickets.

SmartTicket   SystemsLab Sapienza

Development of a ticket management system on smart cards using Java-Card. In particular, I developed a software for iso 7816 compliant smart-cards to manage different ticket types in a contactless scenario.

Research

Blockchain security and frauds   Sapienza University of Rome

Implementation of a prototype of Multi-Authority Attribute-Based Encryption schema and Smart Contract on EVM chains (Ethereum, Polygon and Avalanche) and on Algorand blockchain [9]. Detection and characterization of NFT Washtrading on the Ethereum blockchain [10].

BGP hijacks and misconfigurations detection Sapienza University of Rome, UCSD, MIT

Collaboration with the University of San Diego (UCSD) and the Massachusetts Institute of Technology (MIT) on the development of new techniques and approaches to detect and profile misconfigurations and hijacks on BGP routing using BGP data and administrative information [7].

Dark Web user profiling and matching   Sapienza University of Rome

Geographic deanonymization of TOR's users and profile matching on Reddit. First, we show that we can detect the geographic origin of the crowds of different hidden services and the users' native language. Second, we show that we can link Dark Web users to Reddit users, breaking anonymity [5][6].

Twitter Bot, Gender and Author Attribution Sapienza University of Rome

Detection of Bot and Gender for Twitter accounts and Authorship Attribution of novels [3][4].

Smart Peephole   Sapienza University of Rome

I was involved in designing a home access security system prototype based on Face Detection, Face Recognition, and Voice Recognition with key phrases [1][2].

Publications

2023   **A Game of NFTs: Characterizing NFT Wash Trading in the Ethereum Blockchain**
ICDCS
[10] M. La Morgia, A. Mei, A. M. Mongardini E. N. Nemmi, "A Game of NFTs: Characterizing NFT Wash Trading in the Ethereum Blockchain", ICDCS2023.

2023   **MARTSIA: Enabling Data Confidentiality for Blockchain-based Process Execution**
EDOC
[9] E. Marangone, C. Di Ciccio, D. Friolo, E. N. Nemmi, D. Venturi, I. Weber, "MARTSIA: Enabling Data Confidentiality for Blockchain-based Process Execution", EDOC2023.

2023   **Translated Texts Under the Lens: From Machine Translation Detection to Source Language Identification**
IDA
[8] M. La Morgia, A. Mei, E. N. Nemmi, L. Sabatini, F. Sassi, "Translated Texts Under the Lens: From Machine Translation Detection to Source Language Identification", IDA2023.

2021   **The parallel lives of Autonomous Systems: ASN Allocations vs. BGP**   AMC IMC
[7] E. N. Nemmi, F. Sassi, M. La Morgia, C. Testart, A. Mei, and A. Dainotti, "The parallel lives of Autonomous Systems: ASN Allocations vs. BGP", AMC IMC2021.

2020   **A Light in the Dark Web: Linking Dark Web Aliases to Real Internet Identities**   IEEE ICDCS
[6] A. Arabnezhad, M. La Morgia, A. Mei, E. N. Nemmi, and J. Stefa, "A Light in the Dark Web: Linking Dark Web Aliases to Real Internet Identities", IEEE ICDCS 2020, Singapore.

2020   **Nationality and Geolocation based Profiling in the Dark (Web)**   IEEE TSC
[5] M. La Morgia, A. Mei, E. N. Nemmi, Simone Raponi, and J. Stefa, "Nationality and Geolocation based Profiling in the Dark (Web)", IEEE Transactions on Service Computing, 2020, in press.

2019   **Bot and Gender Detection of Twitter Accounts Using Distortion and LSA**   CLEF
[3] A. Bacciu, M. La Morgia, A. Mei, E. N. Nemmi, V. Neri, and J. Stefa, "Bot and Gender Detection of Twitter Accounts Using Distortion and LSA", CLEF (Working Notes) 2019.

2019   **Cross-Domain Authorship Attribution Combining Instance Based and Profile-Based Features**
CLEF
[4] A. Bacciu, M. La Morgia, A. Mei, E. N. Nemmi, V. Neri, and J. Stefa, "Cross-Domain Authorship Attribution Combining Instance Based and Profile-Based Features", CLEF (Working Notes) 2019.

2018   **House in the (biometric) cloud: a possible application**   IEEE Cloud Computing
[2] M. De Marsico, E. Nemmi, B. Prenkaj, and G. Saturni, "House in the (biometric) cloud: a possible application" in IEEE Cloud Computing vol IV, 2018.

2017   **A Smart Peephole on the Cloud**   ICIAP 2017
[1] M. De Marsico, E. Nemmi, B. Prenkaj, and G. Saturni, "A smart peephole on the cloud," in International Conference on Image Analysis and Processing. Springer, 2017, pp. 364–374.