

## PERSONAL INFORMATION

## Jonathan Simeone



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Sex M | Date of birth 01/12/1994 | Nationality Italian

## WORK EXPERIENCE

2019 - Ongoing

## Senior FullStack Developer

Datasound SRL, C.da Fonte Lappone, 86090, Pesche (IS), Italy

- Design, development and deployment of machine learning based recommender systems
- Design, development and deployment of Unity web, mobile, PC and VR applications
- Design, development and deployment of web and mobile applications
- Management of small development teams

## TEACHING ACTIVITIES

Apr 2025 – May 2025

## Hands On Unity Lite Training Course

Convitto Nazionale Mario Pagano, Campobasso (CB), Italy

Practical basic course for videogames development using Unity engine

Duration: 15 hours

Mar 2024 – Sep 2024

## Hands On Unity Professor

Università degli Studi del Molise, Pesche (IS), Italy

Practical course for videogames development using Unity engine

Duration: 24 hours

Aug 2023 – Feb 2024

## VR Development Essentials: Unity and OpenXR

Veteran Defense Center, Ministry of Defense, Rome, Italy

Training Course for Researchers of the Gait Laboratory of the Veteran Defense Center

Duration: 12 hours

Gen 2022 – Apr 2022

## Mastering Unity: From Setup to Interactive Project Creation

Veteran Defense Center, Ministry of Defense, Rome, Italy

Training Course for Researchers of the Gait Laboratory of the Veteran Defense Center

Duration: 20 hours

## EDUCATION AND TRAINING

2019-2022

## Master's degree in "Software system security"

Università degli Studi del Molise, Pesche (IS), Italy

Thesis title: "EDISON: a Time-Oriented Context and Application Adaptive Continuous-Authentication Framework"

Final grade: 110/110 *Cum Laude*

## 2016-2019 Bachelor's degree in "Computer science"

Università degli Studi del Molise, Pesche (IS), Italy

Thesis title: "VI.MEN.T: un sistema videoludico terapeutico per bambini con ADHD"

Final grade: 110/110 *Cum Laude*

## PERSONAL SKILLS

Mother tongue(s) Italian

Other language(s)

English

UNDERSTANDING		SPEAKING		WRITING
Listening	Reading	Spoken interaction	Spoken production	
B2	B2	B2	B2	B2

## Communication skills

Good communication skills gained through my experience in Datasound during face-to-face meetings with customers. I have also improved my communication skills by providing tutoring sessions to my peers throughout my university studies.

## Organisational / managerial skills

I enhanced my organizational and managerial skills at Datasound, where I successfully led small teams of developers. Additionally, I further developed these skills by co-tutoring the following master's and bachelor's thesis:

- Student: Martina Buro  
Master's thesis title: "Enhancing Edison: automatic setting of engine parameters in the continuous authentication pipeline" (*pending*)  
University: Università degli Studi del Molise, Pesche (IS), Italy  
Tutor: Prof. Stefano Ricciardi  
Defended on: April 2024
- Student: Antonio Antenucci  
Master's thesis title: "Empirical Assessment of Different Security Threat Models on Real Applications"  
University: Università degli Studi del Molise, Pesche (IS), Italy  
Tutor: Prof. Rocco Oliveto  
Defended on: February 2024
- Student: Domenico Carlini  
Bachelor's thesis title: "Un Sistema software per il monitoraggio remoto dei parametri climatici di una vigna"  
University: Università degli Studi del Molise, Pesche (IS), Italy  
Tutor: Prof. Rocco Oliveto  
Defended on: October 2023
- Student: Alessio Di Giovanni  
Bachelor's thesis title: "Da IoRianimo a React: una nuova app per la creazione di una rete di primo soccorso"  
University: Università degli Studi del Molise, Pesche (IS), Italy  
Tutor: Prof. Rocco Oliveto  
Defended on: February 2023

## Job-related skills

- Proficient in key technologies used in Datasound, demonstrating a comprehensive understanding and application of industry-relevant tools and systems.
- Strong expertise in quality control processes, ensuring high standards of work through meticulous oversight and effective implementation of best practices.
- Exceptional teamwork abilities, characterized by effective collaboration, communication, and a commitment to collective success in diverse team settings.

## Computer skills

- Excellent knowledge of the OOP paradigm
- Excellent knowledge of the Java programming language
- Good knowledge of the Python programming language
- Good knowledge of Matlab
- Standard knowledge of the C programming language
- Good knowledge of the HTML, CSS, Javascript and PHP
- Good knowledge of WordPress
- Good knowledge of relational and non-relational databases
- Good knowledge of mobile applications development
- Excellent knowledge of Git versioning control system
- Excellent knowledge of Docker and Gitlab CI/CD
- Good knowledge of machine learning
- Excellent knowledge of the Unity engine and Unity Version Control
- Excellent knowledge of C# applied in Unity

## Main Frameworks:

- Springboot (Java backend applications)
- JPA (Object-Relational Mapping)
- Angular (Frontend applications)
- Ionic (Hybrid mobile apps)

## Driving licence

B

## PUBLICATIONS

Integrating Gait and Clinical Data with Explainable Artificial Intelligence for Parkinson's Prediction: The EDAM System

(Scitepress · 1 mar 2025)

<https://www.scitepress.org/Papers/2025/131794/131794.pdf>

Virtual-Physio: A Virtual Assistant for Home Physiotherapy Rehabilitation

(SSRN · 13 nov 2023)

[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=4618979](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4618979)

A holistic system for fostering active aging: the D3A project

(AlxAS · 9 nov 2023)

[https://rocoli.github.io/pubs/AlxAS\\_2023\\_paper\\_3.pdf](https://rocoli.github.io/pubs/AlxAS_2023_paper_3.pdf)

2Vita-B Physical: An Intelligent Home Rehabilitation System Based on Microsoft Azure Kinect

(Human and Artificial Collaboration for Medical Best Practices / Frontiers in Human Dynamics · 28 set 2021)

<https://www.frontiersin.org/articles/10.3389/fhumd.2021.678529/full>

A Virtual Assistant for Home Rehabilitation: the 2Vita-B Physical Project

(Institute of Electrical and Electronics Engineers · 10 set 2021)

<https://ieeexplore.ieee.org/document/9584548>

Postural control assessment via Microsoft Azure Kinect DK: An evaluation study

(Computer Methods and Programs in Biomedicine / Elsevier · 10 ago 2021)

<https://www.sciencedirect.com/science/article/abs/pii/S0169260721003989?via%3Dihub>

MIPHAS: Military Performances and Health Analysis System

(Proceedings of the 13th International Joint Conference on Biomedical Engineering Systems and Technologies - (Volume 5, Health Informatics) / Scitepress Digital Library · 1 feb 2020)

<https://www.scitepress.org/Link.aspx?doi=10.5220/0008989401980207>

## ADDITIONAL INFORMATION

### Personal projects

#### EDISON

Edison (gEneralized aDaptive continuouS authenticatiOn eNginE) is my research project for my master's thesis in Software Systems Security and involved the development of a novel generalizable, adaptive, reliable and time-oriented multibiometric continuous authentication framework equipped with context and anomaly detection mechanisms. The generalizability of the approach lies in its independence from specific hardware or biometric architectures. In addition, I created a possible implementation of the approach through an Android mobile app written in Java and a backend written in Python and Matlab. For this implementation, I used state-of-the-art machine learning-based approaches to handle face, voice, and gait authentication.

#### LUST

In the course of a machine learning exam I created LUST, a predictive model that can classify the topic of a legal question. I built the dataset developing a crawler that extracted legal questions from various websites and I trained the model obtaining good results through Support Vector Machine (SVM) and a pre-trained Neural Network on which I performed fine tuning on my dataset that I balanced with text augmentation techniques.

#### ZeroTwo: my Cryptolocker Ransomware

As a project for a security exam I developed ZeroTwo, a cryptolocker ransomware written in C# effective against an up-to-date Windows system with virus protection. ZeroTwo presents itself as a simple image. In fact, once opened, nothing happens except for the image itself opening. Yet, once the file is executed, the system is infected with malicious and absolutely "silent" extraction of destructive code and infected registry keys. The lack of suspicious video output is manageable through the use of various VBS and batch scripts. Once the computer is accessed again, however, the malware activates, encrypts the user's files and extracts a reverter with instructions to pay the ransom. In addition, once the damage is done, the malware self-deletes from the system, leaving no trace. I made the malware undetectable by antivirus software through antivirus evasion techniques, such as encrypting and encoding the malicious payload. Also, thanks to some heuristics, I was able to point out some vulnerabilities specific to Windows Defender, especially with regard to avoiding its cloud analysis.

#### VIMENT

As an experimental thesis for my computer science degree, I developed using the Unity engine a video game for children with ADHD (Attention-Deficit/Hyperactivity Disorder). The project contains two challenges: a revised version of the stroop test (with a variant for children not yet able to read) and a "mind race." In the latter challenge, it is necessary to make a car move as fast as possible on a circuit and the car maintains a speed directly proportional to the child's concentration, which is measured through a mindband that can capture brain waves. During both challenges, heart rate is also continuously captured through a finger sensor that communicated with the application through an Arduino board.

#### Horror videogames development

During my spare time I develop horror videogames in Unity. In my games, I often use survival mechanics: the player is in a hostile and gloomy environment and he has to find some objects in order to leave it. An enemy entity is always present scouting and searching for the player. The player usually has no weapons to defend himself and he has to avoid contact with the enemy or hide when possible. If detected, the player must run away until his tracks are lost.