





Curriculum Vitae – 4th November 2023

VIVIANA PENTANGELO

 [vipenti.github.io](https://github.com/vipenti)

 vpentangelo@unisa.it  linkedin.com/in/vivianapentangelo/  github.com/vipenti

Viviana Pentangelo is a Ph.D. Student in Computer Science at the University of Salerno. Her research interests primarily revolve around Metaverse Engineering, intending to define theories, frameworks, and best practices that can guide its development. Specifically, she focuses on analyzing machine learning techniques for automatically generating 3D environments to promote the creation and dissemination of metaverse solutions. Furthermore, she has the E-Health context as a case study to study the potential benefits that metaverse platforms could bring to the medical field.

Personal Information

- **Date of Birth:** May 26, 2000
- **Current Location:** Salerno (SA) - Italy
- **Place of Birth:** Torino (TO) - Italy
- **Nationality:** Italian

Education

Doctor of Philosophy

Nov. 2023 – Present

University of Salerno — Salerno (SA) - Italy

Ph.D. course in Computer Science at Software Engineering Salerno (SeSa) Lab

Advisor: Prof. Fabio Palomba

Master's Degree (cum laude)

Sep. 2021 – Sep. 2023

University of Salerno — Salerno (SA) - Italy

Master's Degree in Computer Science with final grade 110/110 cum laude

Thesis title: “The Metaverse Classroom: Development and Evaluation of an Engineered Educational Metaverse”

Supervisor: Prof. Fabio Palomba

Bachelor's Degree (cum laude)

Sep. 2018 – Sep. 2021

University of Salerno — Salerno (SA) - Italy

Bachelor's Degree in Computer Science with final grade 110/110 cum laude

Thesis title: “Automated Generation of 3D Human Models for Virtual Fitting”

Supervisors: Prof. Andrea F. Abate, Dr. Ignazio Passero

Research Areas

Her main research areas are Metaverse Engineering, with a particular focus on Machine Learning techniques for the generation of 3D environments, and Metaverse for E-Health.

- **Metaverse Engineering:** Emerging metaverse applications are complex platforms that require expertise from various fields. To promote their development and dissemination, her research focuses on developing frameworks, theories, guidelines, and best practices that guide the community in developing such platforms.
- **Machine Learning for Computer Graphics:** 3D computer graphics form the foundation of metaverse platforms. Efficiently developing environments, avatars, and 3D objects on a large scale is a lengthy process accessible only to those with the right technical expertise. Her research aims to study and define strategies and techniques based on Machine Learning, especially computer vision, to support a more efficient and accessible creation of such environments.
- **Metaverse for E-Health:** The case study she focuses on pertains to potential metaverse solutions in the medical field. Its collaborative and highly immersive nature can bring significant benefits to medical personnel training activities, breaking free from the constraints of physical space availability and the lack of dedicated equipment. The boundless ability to create 3D objects and scenes and make them interactable in real time paves the way for unprecedented scenarios and simulations for diagnostic and surgical procedures. Therefore, her research aims to study and develop metaverse platforms that can effectively support these activities.

Publications

G. Voria, **V. Pentangelo**, A. Della Porta, S. Lambiase, G. Catolino, F. Palomba, F. Ferrucci, “Community Smell Detection and Refactoring in SLACK: The CADOCS Project”, *IEEE International Conference on Software Maintenance and Evolution (ICSME)*, 2022, doi: 10.1109/ICSME55016.2022.00061.

Teaching Activities

Teaching Assistant of Fundamentals of Artificial Intelligence **2023**
University of Salerno — Salerno (SA) - Italy

Teaching Assistant in the course of Prof. Fabio Palomba at the Bachelor Degree of Computer Science at the University of Salerno.

Talks & Seminars

15th Seminar on Advanced Techniques & Tools for Software Evolution **2023**
University of Salerno — Salerno (SA) - Italy

Presentation titled “Conversational Agents for the Detection Of Community Smells: The CADOCS Project”, *at the 15th Seminar on Advanced Techniques & Tools for Software Evolution (SATToSE) during the 16th International Summer School on Software Engineering (ISSSE)*.

Reviewer Service

Multimedia Tools & Applications

2023

Reviewer for *Multimedia Tools & Applications Special Issue: Metaverse and E-Learning Platforms*

Academic Projects

The Metaverse Classroom | *Unity3D, Photon, C#, Blender*

2023

A collaborative 3D virtual environment for academic and educational purposes developed with Unity3D
github.com/vipenti/Metaverse_Classroom

3D Human Body Generator | *Python, Blender, HTML*

2023

A web tool to create a fully customizable 3D human body with given the body measurements
github.com/vipenti/3D-Human-Body-Generator

CADOCS | *Python, Slack*

2023

A conversational agent for the detection of community smells
github.com/gianwario/CADOCS

AI Plays Tetris | *Unity3D, C#*

2023

An Unity3D and ML-Agents project with neural network trained by reinforcement learning that plays the Tetris game
github.com/vipenti/Tetris-MLAgents

ASL Alphabet Recognition | *Python*

2023

A Convolutional Neural Network that can recognize the ASL Alphabet live with a webcam
github.com/vipenti/ASL-Alphabet-Recognition-RealTime

Biblionet | *HTML, CSS, Java, Javascript, Thymeleaf*

2023

A Spring Boot web application for library support
github.com/StefanoLambiase/biblionet

Certifications

SATToSE & ISSSE Certificate of Attendance

Jun. 2023

University of Salerno — Salerno (SA) - Italy

Certificate of Attendance to the 15th Seminar on Advanced Techniques & Tools for Software Evolution and the 16th International Summer School on Software Engineering

Certification of General English at level C1

Aug. 2018

University College of Dublin Centre — Dublin, Ireland

Certification obtained after a two-week English school in the University College of Dublin

Certification of General English

Aug. 2017

Embassy Docklands Centre — London, England

Certification obtained after a two-week English school in the Embassy Docklands of London

Cambridge English Certificate Level B2

Jun. 2016

Salerno (SA) - Italy

Cambridge English Level 1 Certificate in ESOL International (Preliminary)

Technical Skills

Languages: Python, C, C#, Java, LaTeX, R

Web: HTML5, CSS, JavaScript, Bootstrap, Thymeleaf

Framework: Spring MVC, Spring Boot, Robot Operating System, Selenium

Tools: : Unity3D, Blender, IntelliJ, Eclipse, VS Code, NetBeans, PyCharm, Android Studio, R Studio, Jupyter, Balsamiq, Visual Paradigm

Database: SQL, MongoDB

Versioning: Git, GitHub, GitLab

Privacy Treatment

In compliance with the GDPR and the Italian Legislative Decree no. 196 dated 30/06/2003, I hereby authorize you to use and process my personal details contained in this document.

Fisciano, 4th November 2023

A handwritten signature in black ink, appearing to read 'V. Sciarra', is written over a horizontal line.