

# DAVIDE PAOLILLO

## SW Engineer & Founder & Researcher

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## EXPERIENCE

### Research Fellow

#### University of Milan

📅 July 2024 – Ongoing

📍 Milan, IT

- Developed a C++ tool, with QT, for creating and editing sphere-meshes, an advanced collider for cloth simulation in 3D wearer software.
- Developed a lightweight open-source library for using sphere-meshes in real-time graphical applications.
- Enhanced algorithmic efficiency by ~20% through novel disjoint set techniques.

### Startup Co-Founder

#### Develop-Players

📅 Aug 2021 – Aug 2024

📍 Cesena, IT

- Co-founder and technical lead of development.
- Designed and implemented a full-featured payment system from scratch using Next.js (React), AWS, and Stripe.
- Designed and maintained the CI/CD pipeline using git, AWS Cloudformation, and Kubernetes.
- Boosted client-side game performance by ~75% using custom mesh compression.
- Optimized backend data architecture, enhancing query performance by ~15% and scalability through efficient primary key indexing.
- Developed dashboards, applications, and games tailored for people with Specific Learning Disorders.
- Secured 700k+ € in investments.

### Research Fellow

#### University of Bologna

📅 Aug 2021 – Aug 2022

📍 Cesena, IT

- Development of serious games with enhanced accessibility features for people with SLDs.

## PUBLICATIONS

- M. Benassi, D. Paolillo, M. Spinoso, *et al.*, “Train your attention and executive functions with eye-riders! a videogame for improving cognitive abilities in neurodiverse children,” in *2024 IEEE 21st CCNC*, 2024, pp. 1–6. DOI: 10.1109/CCNC51664.2024.10454866.
- D. Paolillo, B. Corradino, G. Tumedei, M. Benassi, and C. Prandi, “On developing a procedural level generator based on the model synthesis algorithm in the context of serious games,” in *2024 IEEE 21st CCNC*, 2024, pp. 284–289. DOI: 10.1109/CCNC51664.2024.10454803.
- D. Paolillo and M. Tarini, “Automatic and user-assisted sphere-mesh construction,” *IEEE Computer Graphics and Applications*, pp. 1–13, 2024. DOI: 10.1109/MCG.2024.3426656.
- D. Paolillo, A. Taroni, and M. Tarini, “User-assisted sphere-mesh construction,” 2023. DOI: 10.2312/STAG.20231303.

## AWARDS



### Best Paper Award

Sphere-mesh editor tool presented at STAG2023.



### Pre-seed investment

70k € received as investment after the acceleration program held at Social Fare with Develop-players.



### Round investment

600k € received as a first-round investment for the scale-up, from Opess Italia & 20Fund.

## PROJECTS

### Sphere-mesh editor

Developed and published an open-source lightweight and efficient library in C++ for sphere-mesh creation, tweaking, and usage.

OpenGL

Eigen

C++

QT

### Coeus Engine

A custom game engine, with a rendering engine, physics system, and mathematical library developed in C++. The internal texture editor tool was developed in Python.

C++

OpenGL

CUDA

Python

### Find Your Way

An Internal Positioning System that leverages UWB technology and other IoT devices along with AWS cloud computing capabilities to guide a user inside of buildings.

C++

AWS

Flutter

Kubernetes

## EDUCATION

### M.S. in Computer Science

#### University of Milan

📅 2020 – 2022

📍 Milan, IT

Graduated with a final grade of 110/110 with honors

### B.S. in Computer Science

#### University of Bologna

📅 2016 – 2019

📍 Cesena, IT