



# Simone Zannini

AI SPECIALIST · FULL-STACK DEVELOPER · STARTUP CO-FOUNDER & CTO

Rome, Italy

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“For the roads, they go on without end.”

## About Me

I am a computer scientist and AI enthusiast with a strong background in **software development** and **artificial intelligence**. My journey began in my early teens, building websites and experimenting with design, which naturally led me to pursue a degree in **Computer Science** at La Sapienza University of Rome, where I graduated with top marks. Today, I serve as **Co-Founder & CTO of 4AI**, where I transform research in **deep learning**, **computer vision**, and **data engineering** into innovative products and platforms.

I am fluent in **Italian** and **English**, with additional knowledge of **Spanish** and a growing interest in learning **Japanese**. Known for my persuasive communication and leadership, I thrive in collaborative projects and dynamic environments that require both technical expertise and creative problem-solving.

Outside of work, I maintain a strong passion for **sports** — practicing padel, tennis and weightlifting — which helps me balance physical energy with mental focus. I am also a **hobbyist illustrator** and a self-taught average **pianist**, pursuing creative outlets that complement my technical career. Driven by curiosity, I continuously seek new challenges that allow me to bridge the gap between **technology**, **creativity**, and **human connection**.

## Work Experience

### Sapienza University of Rome

Rome, Italy

RESEARCH FELLOW (WI-FI SENSING)

Nov. 2024 – Nov. 2025

- Conducted applied research on Wi-Fi sensing, focusing on environmental perception and motion detection through wireless signal analysis.
- Developed AI-driven pipelines for data preprocessing, feature extraction, and real-time inference.

### 4AI

Rome, Italy

CO-FOUNDER & CTO

Jun. 2023 – Present

- Founded the startup from the AiLights project; responsible for technical strategy and execution.
- Full-stack development (backend/frontend), network/system administration, and database management.
- Data engineering, data analysis, data science; design and deployment of modern DL/ML models.
- Built end-to-end AI platforms for streaming and real-time analytics (CV, time series, inference).

### Target Reply S.r.L.

Rome, Italy

IT CONSULTANT

Jun. 2023 – Sep. 2023

- Worked with SAS Visual Analytics and SQL databases.

### Websites, SEO, Management Systems, AiLights

Rome, Italy

FREELANCE DEVELOPER

Oct. 2023 – May. 2024

- Designed and delivered responsive websites with a focus on SEO optimization and performance.
- Developed custom management systems to support small business operations and workflows.
- Extended the AiLights project by implementing AI models for real-time computer vision and analytics.

### Università La Sapienza di Roma

Rome, Italy

CURRICULAR INTERNSHIP (M.Sc.)

2022 – 2023

- Automatic generation of sport statistics using deep learning and computer vision (AiLights).

### Università La Sapienza di Roma

Rome, Italy

CURRICULAR INTERNSHIP (B.Sc.)

2020 – 2021

- Deep learning applied to corporate documents for process mining.

## Technical Overview

I have built a comprehensive background in **software development**, with a strong focus on **Python** and its ecosystem for **artificial intelligence**, **deep learning** and **data engineering**. My expertise covers the design and deployment of models for **time series analysis**, **computer vision**, and the handling of complex **multimodal datasets** (text, images, video). Throughout my projects and startup activities, I have mastered frameworks such as **TensorFlow**, **PyTorch**, **scikit-learn**, and data manipulation tools like **NumPy** and **Pandas**, complemented by the use of **ffmpeg** and custom streaming solutions.

Beyond AI, I have a solid command of **full stack development**, spanning both **frontend and backend**, with hands-on experience in **React**, **Next.js**, and **Django**, as well as containerization with **Docker** and orchestration with **Docker Compose**. I am proficient in the integration of

databases (**MySQL**, **PostgreSQL**) and in managing **distributed systems** using tools like **Redis**, **RabbitMQ**, and secure networking with **Wireguard** and **OpenVPN**.

This mix of skills, enriched by my role as **Co-Founder & CTO at 4AI**, allows me to deliver **end-to-end solutions**, bridging the gap between cutting-edge **machine learning research** and robust **production-ready systems**. I thrive in **fast-paced environments**, and I constantly push myself to learn and adopt **emerging technologies** across the software engineering spectrum.

## Hard Skills

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<b>Programming</b>	Python (TensorFlow, PyTorch, NumPy, Pandas, Scikit-learn, YOLO, Pillow, Celery, PyQt, Tkinter, CustomTkinter, Streamlit, Django, Flask), JavaScript (React, Angular, Next.js, Redux), Node.js, TypeScript (base), Java (base), C/C++ (base), C# (Unity, base), Flutter/Dart (base), PHP (base)
<b>Data &amp; AI</b>	Deep Learning (CV, NLP, Time Series), Data Engineering (ETL pipelines, scripting, DataFrames), Computer Vision (Roboflow, object detection, image/video analysis), Data Lakes (Parquet, medallion architecture), Prompt Engineering (LLM, generative AI), OpenAI API
<b>DevOps &amp; Networking</b>	Docker & Docker Compose (multi-service, dev/prod), Git (GitHub, GitLab), Redis, RabbitMQ, Caddy, Nginx, Wireguard, OpenVPN, RTSP, Linux sysadmin (routing, firewall, automation), Rustdesk self-hosted
<b>Cloud &amp; Tools</b>	Google Cloud Platform (base), Postman, JetBrains IDEs (WebStorm, PyCharm, IntelliJ), VSCode
<b>Frontend &amp; Design</b>	HTML, CSS, Bootstrap, Tailwind CSS, UI/UX design (Figma)
<b>Graphics</b>	Photoshop, Gimp, Clip Studio Paint
<b>Multimedia</b>	Premiere Pro, Kdenlive, ffmpeg

## Soft Skills

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<b>Problem Solving</b>	Strong analytical thinking, ability to approach complex challenges with creativity and efficiency
<b>Teamwork &amp; Leadership</b>	Experience in collaborative projects, co-founder and CTO role with responsibility for technical and organizational leadership
<b>Adaptability</b>	Quick learner, able to embrace new technologies and frameworks rapidly when needed
<b>Communication</b>	Clear presentation of complex technical concepts, both to technical and non-technical audiences
<b>Innovation &amp; Initiative</b>	Proactive in proposing new ideas and turning them into real projects (AIlights, Traid)

## Education

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<b>Università La Sapienza di Roma</b> M.Sc. IN COMPUTER SCIENCE (LM-18) • 110/110 cum laude	<i>Rome, Italy</i> 2021 – 2023
<b>Università La Sapienza di Roma</b> B.Sc. IN COMPUTER SCIENCE (L-31) • 110/110 cum laude	<i>Rome, Italy</i> 2018 – 2021
<b>Tullio Levi Civita</b> HIGH SCHOOL DIPLOMA (SCIENTIFIC) • Final grade: 86/100	<i>Rome, Italy</i> 2018

## Projects

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<b>Elizabet</b> INDEPENDENT PROJECT • Machine learning model for football match result prediction, based on historical and live metrics with custom pre-/post-processing pipelines.	<i>Rome, Italy</i> 2021 – 2023
<b>ElizabetCoin</b> INDEPENDENT/CURRICULAR PROJECT • Created an Ethereum-based decentralized application (DApp) enabling users to place bets on sports events and receive rewards proportionate to correct predictions.	<i>Rome, Italy</i> 2022
<b>GPSaveme</b> CURRICULAR PROJECT • Built an Android app to connect users in a mutual-help network, allowing them to send and receive location-based assistance requests.	<i>Rome, Italy</i> 2022

## **AiLights**

STARTUP PROJECT (4AI)

*Rome, Italy*

2023 – 2025

- Full stack platform for automated sport statistics and live streaming (futsal/padel).
- Developed with end-to-end stack including AI models, networking (Wireguard), and ffmpeg for video processing.

## **Screeba**

STARTUP PROJECT (4AI)

*Rome, Italy*

2024

- Speech-to-text framework designed to automate the transcription of academic lectures through advanced pre-/post-processing pipelines.

## **Traid**

STARTUP PROJECT (4AI)

*Rome, Italy*

2024 – Present

- Trading platform providing AI-based signals, developed as a full stack solution with server-side inference.

## **Interests**

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- Sports: football, Formula 1, tennis, padel
- Puzzles: Rubik's cube and variants
- Languages and linguistics
- Entomology and natural sciences
- Reading and creative writing
- Retro-gaming & console modding
- Artificial Intelligence as a personal passion beyond work