# Tommaso Galliena

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### Personal Profile

2nd year Ph.D. student in computer vision researching 3D vision and natural language. My research interests include 3D scene understanding (captioning, grounding) in vision and language and scene representation (semantic gaussian splatting). Previously, a deep learning researcher in computer vision in healthcare, including developing and deploying models to solve ML problems in cardiovascular imaging.

## Experience\_

**Visiting Research Student** 

**Simon Fraser University** 

Vancouver, Canada

August 2025 - Present

Research internship at 3D Vision and Language lab supervised by Prof. Angel Xuan Chang

#### **PhD Student in Computer Vision and Embodied AI**

Genova, Italy

**Italian Institute of Technology** 

March 2024 - Current

My research lies at the intersection of 3D scene understanding, natural language processing, and semantic scene representation, with a focus on self-supervised learning.

#### **Deep Learning Researcher**

Milan. Italy

San Raffaele Research Hospital

October 2023 - March 2024

I contributed to interdisciplinary research applying deep learning to medical imaging, focusing on CNN-based analysis of CT and MRI scans for cardiac disease detection. I also worked on improving the interpretability and generalizability of medical imaging algorithms through systematic evaluation and model refinement.

#### **AI Researcher Intership**

Milano, Italy

**Argo Vision** 

January 2023 - October 2023

During my internship, I have developed a Siamese U-Net model with pixel-wise spatial and temporal attention mechanisms for automated detection and segmentation of abdominal aortic aneurysm dilatation from CT scans, achieving 98% accuracy with fewer than 260,000 parameters

#### Education

#### **Master Degree in Artificial Intelligence**

Pavia, Italy

University of Pavia

October 2021 -October 2023

Completed specialized coursework in deep learning, image processing, computer vision, machine learning, and computational learning

#### **Bachelor Degree in Biomedical Engineering**

Pavia, Italy

University of Pavia

October 2018 - September 2021

Coursework in software engineering, pattern analysis, computer vision, algebra, optimization, and probability.

# Extra Curricular Activity \_\_

#### **Oxford Machine Learning Summer School**

Oxford, UK

University of Oxford

August 2025

**Probabilistic Machine Learning Summer School** 

Cambridge, UK

University of Cambridge

July 2024

**Math and Java Programming Tutor** 

Pavia, Italy

University of Pavia

October 2021- June 2023

### **Publications**

# **Embodied Image Captioning: Self-supervised Learning Agents for Spatially Coherent Image Descriptions**

Paper Link

<u>Tommaso Galliena</u>, Tommaso Apicella, Stefano Rosa, Pietro Morerio, Alessio Del Bue, Lorenzo Natale Accepted as a Highlight at ICCV 2025

# Semiautomatic volume measure of kidney vascular territories on CT angiography to plan aortic aneurysm repair in patients with horseshoe kidney

Paper Link

Axel Bartoli, Alberto Colombo, Francesco Pisu, <u>Tommaso Galliena</u>, Chiara Gnasso, Enrico Rinaldi, Germano Melissano, Anna Palmisano, Antonio Esposito

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