

# Tommaso Ferrario

## Computer Vision Engineer

### Profile

M.Sc. student in Computer Science at the University of Milano-Bicocca with a deep passion for Computer Vision, Machine Learning, and Artificial Intelligence.

### Work experience

#### Junior Researcher

*University of Milano-Bicocca, Milan*

Development of a dynamic profiling system based on reinforcement learning for route recommendation in the tourism sector. Created a public service to make the profiling system accessible and authored a research paper on this topic, showcasing the methodology and results.

### Education

#### Master's degree Computer Science

*University of Milano-Bicocca, Milan - Final grade: - / 110*

**Thesis title:**

#### Bachelor's degree Computer Science

*University of Milano-Bicocca, Milan - Final grade: 107/110*

**Thesis title:** "Automatic traffic analysis: machine learning approaches for the analysis of traffic flows on road networks"

#### High school diploma, Computer Science

*I.S.S. Greppi, Monticello Brianza - Final grade 99/100*

### Projects

#### FloodNet Image Segmentation

Semantic segmentation of drone images after Hurricane Harvey for flood identification using Fully Convolutional Networks (FCNs), incorporating data augmentation, architectures like U-Net and SegNet, and fine-tuning of DeepLab.

#### Fine-Grained Food Classification

Design and evaluation of a fine-grained food classification system using image data. The project involved model training, data augmentation, and classification of 251 food classes, including degraded images, with comprehensive performance analysis.

#### Self-Driving Car Simulation

Development of a Unity system with a car agent trained via reinforcement learning to tackle challenges, evaluated using curriculum learning.

#### Ants Colony

Analysis of ant interaction networks to understand colony organization. The project used network structural properties to study the composition and behavior of individuals within the system.

#### Just Home

Just Home is an app that simplifies short-term house rentals for trips and holidays, making the selection and booking process quick and easy.

#### Tool Recognition

Developed an image-processing dataset and an automatic classification system for mechanical tools, integrating image segmentation, feature extraction, and preprocessing techniques to enhance recognition accuracy.

### Contact

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#### Website

Github

### Skills

- Problem-Solving
- Effective Communication
- Adaptability
- Teamwork

### Technical Skills

- Machine Learning & Deep Learning
- Image Processing & Computer Vision
- Reinforcement Learning - Agents
- Algorithms & Data Structures
- Data Analysis
- Relational & NoSQL Databases
- Software Development
- Version Control Systems
- Python, Java, C#, C, Julia, Matlab

### Languages

Italian

Fluent

English

Intermediate