

# UNIVERSITA' DEGLI STUDI DI GENOVA

AREA RICERCA, TRASFERIMENTO TECNOLOGICO E TERZA MISSIONE

SERVIZIO RICERCA

SETTORE RICERCA NAZIONALE

## IL RETTORE

- Visto il Decreto Rettorale n. 4423 del 19/09/2024, con il quale è stato indetto il concorso, per titoli e colloquio, per il conferimento di 1 borsa di ricerca post-laurea di tipo consolidator della durata di 8 mesi, dell'importo di € 12.000,00 (dodicimila/00), eventualmente rinnovabile, per lo svolgimento di una ricerca sul tema: "Deep learning methods for medical image analysis", presso il DIBRIS dell'Università degli Studi di Genova;
- Visto il Decreto Rettorale n. 4794 del 11/10/2024 con il quale è stata costituita la Commissione giudicatrice per il conferimento della suddetta borsa di ricerca;
- Visto il verbale della Commissione giudicatrice del concorso in parola, riunitasi in data 15/10/2024;
- Constatata la regolarità della procedura seguita

## DECRETA

### Art. 1

Sono approvati gli atti del concorso di cui in premessa e la seguente graduatoria di merito:

1 . Dott.re Larbi Touijer	punti 83/100;
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Sotto condizione dell'accertamento dei requisiti di cui al bando, è dichiarato vincitore in parola del concorso il Dott.re Larbi Touijer.

IL RETTORE  
(firmato digitalmente)

Responsabile del procedimento: Paola Pelle  
Area Ricerca, Trasferimento Tecnologico e Terza Missione  
Servizio Ricerca  
Settore ricerca nazionale

Larbi Touijer

Arabic: Mother Tongue  
English: Fluent  
French: Fluent  
Italian: B2

#### About me:

My main research goal is deep learning applied to computer vision, with images being an important means of conveying information in several domains. Primarily in medical applications, automatizing several of the tasks performed by doctors will further advance medicine to new horizons. Besides, attending and participating in several reading groups at the level of our research unit has expanded my knowledge about computer vision, and has improved my skills in reading, analyzing, and presenting scientific papers.

# Larbi Touijer

## Ph.D. Student in Computer Science

### Publications

- Touijer, L., Pastore, V. P., & Odone, F. (2023, September). Food Image Classification: The Benefit of In-Domain Transfer Learning. In International Conference on Image Analysis and Processing (pp. 259-269). Cham: Springer Nature Switzerland.
- Pastore, V. P., Touijer, L., Capurro, N., Cozzani, E., Gasparini, G., Parodi, A., & Odone, F. (2023, April). Incorporating Diagnostic Prior with Segmentation: A Deep Learning Pipeline for the Automatic Classification of Autoimmune Bullous Skin Diseases. In 2023 IEEE 20th International Symposium on Biomedical Imaging (ISBI) (pp. 1-5). IEEE.
- Capurro, N., Pastore, V. P., Touijer, L., Odone, F., Cozzani, E., Gasparini, G., & Parodi, A. (2024). A deep learning approach for Direct Immunofluorescence pattern recognition of Autoimmune Bullous Diseases. British Journal of Dermatology, ljae142.
- L. Touijer, M. Santacesaria, F. Odone and V. P. Pastore, "In Domain Transfer Learning for Prostate MRI Segmentation," 2024 14th International Conference on Pattern Recognition Systems (ICPRS), London, United Kingdom, 2024, pp. 1-5,

### Education

#### Nov 2021 - March 2025, University of Genoa, Italy

- Ph.D. in Computer Science
- Supervision of Francesca Odone & Vito Paolo Pastore
- Subject: Semantic Segmentation applied to medical images

#### 2018 - 2021, University of Genoa, Italy

- Master in Computer Science: Data Science & Engineering
- Supervision of Francesca Odone
- Subject: Automatic Food Nutrients Estimation. It started by gathering data about both the food recipes and the nutrients of the ingredients. An intermediate step was to explore voice recognition to apply text-to-speech from the recipe name to the nutritional values. Finally, we applied image classification to a fruit dataset, followed by a look-up in the nutrients dataset to predict the nutritional values.

#### 2015 - 2017, Mohamed V University, Morocco

- Master in Computer Science
- Supervision of Mohamed El Hassouni
- Subject: Classification of textured images using convolutional neural network. It was a review of deep learning techniques for image classification, starting from MLP to CNN, with an application on textured images.

### Mobility Periods

#### May - July 2023, INRIA, Sophia-Antipolis, France

A three-month internship at the MORPHEME lab, supervised by Xavier De-combes, focused on classifying lung tumor patterns from histopathology images.

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## Oral Presentations

### 11th - 15th Sep 2023, ICIAP 2023, University of Udine, Italy

Presentation of the paper: *Food image classification: the benefit of in-domain transfer learning*, published at the International Conference on Image Analysis and Processing (ICIAP)

### 28th Aug - 1st Sep 2023, SIMAI 2023, University of Basilicata, Italy

Presentation entitled: *Deep learning methods for the automatic classification of autoimmune bullous skin diseases*, at the congress of the Italian Society of Applied and Industrial Mathematics (SIMAI)

## Teaching Assistant

### Mar - Jul 2023, Computational Vision

Preparing and conducting the Laboratories of Object Detection, Image Segmentation, and Pose Estimation. Supervising 4 groups of students for their final projects

### a.a 22/23 & a.a 23/24, Introduzione alla Programmazione,

C++ labs, supporting and addressing students' questions.

### Oct - Dec 2023, Fondamentali Elementi dei Segnali e delle Immagini,

Supervising student groups on their final projects, with weekly meetings to discuss progress, offer guidance, and address questions.

## PhD Schools

### 9 - 15 July 2023, ICVSS 2023, Sicilia

International Computer Vision Summer School

### 12 - 20 July 2022, CVCC + DL Summer School, University of Genoa

Computer Vision Crash Course and Deep Learning: a Hands-on Introduction

### Jan/Feb 2022, MIVA Ph.D. Winter School, Italy

Organized by UMI group MIVA, covering advanced mathematical models for imaging.

### 29 Jun - 3 Jul 2020, RegML: Regularization Methods for Machine Learning, Genoa, Italy

Advanced Machine Learning course, covering regularization methods to deal with high-dimensional data.

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## Other Activities

### Organizing the Ph.D. Seminars, University of Genoa, Italy

Weekly Seminars, where Ph.D. students from the DIBRIS department, conduct a 25min talk related to their research topic

### Responsible for the computational resources

Managing the servers at the level of our research unit, Machine Learning for Vision(MLV)

### Responsible for the social media activities

Communicating and sharing on social media, like Twitter and LinkedIn, the latest news and update at the level of our research unit MLV

### 14-15 Nov 2019, C1A0 Hackathon, Genoa, Italy

A 24h data science hackathon, with the task of predicting the energy consumption and cost at the city of Genoa. With a team of five students, we won the second prize