SERGIO
TASCON MORALES

INFO

E-mail
sergio.tasconmorales@unibe.ch
s.tasconmorales@gmail.com

Website
sergiotasconmorales.github.io

Marital status
Single

Nationality
Colombian

KEY COMPUTER SKILLS

Programming Languages
Python
C/C++
Matlab

Libraries / Frameworks
PyTorch
PyTorch Lightning
Tensorflow + Keras
HuggingFace
LangChain
OpenCV
NLTK
NumPy
SpaCy
Scikit Learn
Pandas

Tools / Platforms
Git
Azure
SLURM
VSCode
ITK-Snap
LaTex

LANGUAGES

Spanish	Native
English	*Advanced (C1)*
German	*Advanced (C1)*
Italian	*Intermediate (B1)*
Turkish	*Basic (A1)*
Russian	*Basic (A1)*

EDUCATION

11.2020 - 05.2024
Bern, CH

Ph.D. in Biomedical Engineering
University of Bern
> Developing solutions in the topic of Visual Question Answering (VQA).
> Thesis title: Spatial Awareness and Logic for Robust Visual Question Answering.

09.2018 - 09.2020
Le Creusot, FR
Cassino, IT
Girona, ES
Heidelberg, DE

Master in Medical Imaging and Applications (MAIA)
University of Burgundy, University of Cassino, University of Girona
> Major academic projects include:
  - Left ventricle segmentation using K-Means and Active Contours
  - Classification of Chest X-Ray images using Deep Learning
  - Segmentation and classification of breast mass lesions using grayscale morphological operations and decision trees
  - Classification of skin lesions using classical machine learning and deep learning
  - 3D Harris corner detector

10.2015 - 03.2016
Ilmenau, DE

Exchange Semester
Ilmenau University of Technology
> Exchange semester during Young Engineers program of the German Academic Exchange Service (DAAD).

02.2011 - 12.2017
Cali, CO

Electronic Engineering
Universidad del Valle
> Main focus on machine learning and computer vision.

WORK EXPERIENCE

02.2020 - 10.2020
Heidelberg, DE

Research Intern
Mediri GmbH
> Developing my master thesis on segmentation of multiple sclerosis lesions using a combination of CNNs and RNNs.
> Leveraging temporal information provided by longitudinal MRI data to improve segmentation quality.

03.2016 - 07.2016
Maulburg, DE

Research Intern
Endress & Hauser
> Evaluating Python as an alternative for future use in the company.
> Analyzing models for pressure sensor linearization.

PUBLICATIONS

2024 — **Targeted Visual Prompting for Medical Visual Question Answering**

International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI). Co-authors: P. Márquez-Neila, R. Sznitman. [Submitted]

2023 — **Localized Questions in Medical Visual Question Answering** ⟳

International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI). Co-authors: P. Márquez-Neila, R. Sznitman.

2023 — **Logical Implications for Visual Question Answering Consistency** ⟳

Conference on Computer Vision and Pattern Recognition (CVPR). Co-authors: P. Márquez-Neila, R. Sznitman.

2022 — **Consistency-Preserving Visual Question Answering in Medical Imaging** ⟳

International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI). Co-authors: P. Márquez-Neila, R. Sznitman.

2020 — **Multiple Sclerosis Lesion Segmentation Using Longitudinal Normalization and Convolutional Recurrent Neural Networks** ⟳

Workshop on Machine Learning In Clinical Neuroimaging at the International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI). Co-authors: S. Hoffman, M. Treiber, D. Mensing, A. Oliver, M. Günther, J. Gregori.

HONORS & AWARDS

2020
Le Creusot, FR
Best master thesis and best student awards
University of Burgundy, University of Cassino, University of Girona

2018
Girona, ES
Erasmus+ grant
European Union

2017
Cali, CO
Bachelor final project with distinction
Universidad del Valle

2015
Cali, CO
Scholarship Young Engineers
German Academic Exchange Service (DAAD)

2009
Ginebra, CO
Best high school graduate
Institución Educativa Inmaculada Concepción

HOBBIES & INTERESTS

Violin   Hiking   Drawing   Reading   Football