Julien WALTHER

2nd year PhD student in computer vision

Contact

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Driver licence A et B
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Languages

French : Native
English : Level C1
German : Level B1

Programming skills

Advanced skills : Python - C++ - Pytorch - Git

Intermediate level : Cuda - Latex - Linux

AI Projects

Video Denoising: Development of a neural network for infrared videos denoising. Study on the temporal coherence of input images. Investigation of CNN, transformers, and recurrent network architectures

Time-series: Prediction of the electrical consumption of the Green-Er building using an LSTM model.

Embedded GPU: Study on weight quantization and optimization for neural network inference using the TensorRT C++ library on embedded GPUs.

Hobbies

Saxophone / Jazz
Motobike

Professional experiences

PhD, IMS Bordeaux
From October 2024 to October 2027
Subject : *Deep-learning models from structural image representations*
Supervision : Rémi Giraud and Michaël Clément

- *Publication : BMVC 2025 : Superpixel Anything: A general Object-based Framework for accurate yet regular superpixels*

Algorithm Engineer, Lynred
September 2022 - August 2024

- *Software development for image processing in C++ - Real-time pipeline optimization with GPU code*
- *Development of an AI algorithm for global denoising of infrared videos*

Final Year Master Internship, Lynred
February 2022 - July 2022
Correction of temporal noise in infrared videos using deep neural networks

Internship, Lab Spintec Nanoelec
May 2021 - July 2021
Development of the course materials and lab sessions for a Master's level course on Embedded AI

Teaching

Enseirb-Matmeca Bordeaux ~ 120 hours

- Introduction to Image Processing
- Project coding in C
- Project Optimisation of a deep learning detection model
- Project Computer Vision
- Lab session: Information processing

Studies

Grenoble-INP Phelma SICOM
September 2019 - September 2022
Master degree : Majors in Signal Processing, Image Processing and Machine Learning

Preparatory class, Lycée Kléber Strasbourg
September 2016 - August 2019
Specialising in Physics and Engineering Science

BAC S Lycée Notre-Dame Strasbourg
September 2013 - August 2016
With honors