

JOËLLE HANNA

Computer Vision, Machine Learning & Remote Sensing

📍 St. Gallen, Switzerland

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EDUCATION

Ph.D. Program

Computer Science, Machine Learning, University of St. Gallen

📅 Expected February 2026

📍 St. Gallen, Switzerland

Summer School

Oxford Machine Learning Summer School, ML x Health

📅 July 2023

📍 Oxford, UK

IEEE GRSS IADF School on Computer Vision for Earth Observation

📅 October 2022

📍 Virtual

Master of Science (M.Sc.)

Electrical & Electronic Engineering - specialized in Data Science and Systems, Ecole Polytechnique Fédérale de Lausanne (EPFL)

📅 October 2020

📍 Lausanne, Switzerland

Bachelor of Science (B.Sc.)

Electrical & Electronic Engineering, Ecole Polytechnique Fédérale de Lausanne (EPFL)

📅 June 2018

📍 Lausanne, Switzerland

EXPERIENCE

Student Researcher (Intern)

Google Research, Google

📅 October 2023 – February 2024 📍 Zürich, Switzerland

- Topic: Develop a Conversational Chatbot for Radiotherapy Patients.

Master Thesis

Swisscom Digital Lab, Swisscom

📅 February 2020 – September 2020 📍 Lausanne, Switzerland

- Title: "Iterative Self-Learning: Reducing the Cost in ASR Systems"

Semester Project

Signal Processing Laboratory, Prof. Pierre Vandergheynst

📅 September 2019 – January 2020 📍 Lausanne, Switzerland

- Topic: "Wikipedia's database analysis: Topic extraction using NLP".

Logmind AI - Internship

📅 June 2019 – September 2019 📍 Lausanne, Switzerland

- Topic: "Real-time Anomalies and Outliers Detection on Time-Series Data".

Semester Project

Signal Processing Laboratory, Prof. Jean-Philippe Thiran

📅 February 2019 – June 2019 📍 Lausanne, Switzerland

- Topic: "Temporal Super-Resolution: frame-rate upscaling using Deep Neural Networks (GANs)".

AWARDS

- Best Student Paper Award, CVPR's Earthvision Workshop 2022

PUBLICATIONS

- Hanna, J., Borth, D. (2025). Know Your Attention Maps: Class-Specific Token Masking for WSSS. *International Conference on Computer Vision (ICCV)*
- Xiong, Z., Wang, Y., Zhang, F., Stewart, A.J., Hanna, J., Borth, D., Papoutsis, I., Saux, B.L., Camps-Valls, G., Zhu, X.X. (2024) Neural Plasticity-Inspired Foundation Model for Observing the Earth Crossing Modalities. *arxiv*
- Mommert, M., Kesseli, N., Hanna, J., Scheibenreif, L., Borth, D., Demir, B. (2023). Ben-ge: Extending BigEarthNet with geographical and environmental data. *IEEE International Geoscience and Remote Sensing Symposium*
- Hanna, J., Borth, D., Mommert, M. (2023). Physics-Guided Multitask Learning for Estimating Power Generation and CO2 Emissions from Satellite Imagery. *IEEE Transactions on Geoscience and Remote Sensing*
- Hanna, J., Mommert, M., Borth, D. (2023). Sparse Multimodal Vision Transformer for Weakly Supervised Semantic Segmentation. *EarthVision: Large Scale Computer Vision for Remote Sensing Imagery*
- Scheibenreif, L.*, Hanna, J.*, Mommert, M., Borth, D. (2022). Self-supervised Vision Transformers for Land-cover Segmentation and Classification. *EarthVision: Large Scale Computer Vision for Remote Sensing Imagery* - Awarded "Best Student Paper". (* : equal contribution)
- Hanna, J., Scheibenreif, L., Mommert, M., Borth, D. (2022). A Multimodal Approach for Event Detection: Study of UK Lockdowns in the year 2020. *IEEE Int. Geoscience and Remote Sensing Symposium (IGARSS)*.
- Hanna, J., Mommert, M., Scheibenreif, L., Borth, D. (2021). Multitask Learning for Estimating Power Plant Greenhouse Gas Emissions from Satellite Imagery. *NeurIPS Workshop Tackling Climate Change with Machine Learning*.
- Hanna, J., Mommert, M., Borth, D. (2021). Estimating Industrial Greenhouse Gas Emissions from Satellite Imagery. *ESA-ECMWF Machine Learning for Earth System Observation and Prediction Workshop*.
- Mommert, M., Scheibenreif, L., Hanna, J., Borth, D. (2021) Power Plant Classification from Remote Imaging with Deep Learning. *IEEE Int. Geoscience and Remote Sensing Symposium (IGARSS)*.
- Miz, V., Hanna, J., Aspert, N., Ricaud, B., Vandergheynst, P. (2020) What is Trending on Wikipedia? Capturing Trends and Language Biases Across Wikipedia Editions. *ACM Int. World Wide Web Conference (WWW)*.

SKILLS

Languages: English, French, Arabic, German (Basic)

Programming Languages: Python, Matlab, C, C++

ML Frameworks: PyTorch, Tensorflow/Keras, OpenCV