Michael Etienne Van Huffel

Personal Website ◇ Mobile Phone ◇ Google Scholar

Education

Eidgenossische Technische Hochschule (ETH) Zurich **2022 – present**
MSc in Statistics *CGPA: 5.78/6.0*
- Selected courses: Topological Data Analysis, Statistical Learning Theory, Guarantees for Machine Learning, Natural Language Processing

Eidgenossische Technische Hochschule (ETH) Zurich **2019 – 2022**
BSc in Mechanical Engineering *GPA: 5.38/6.0*
- Selected courses: Machine Learning, Models, Algorithms and Data, Quantum mechanics, Control Systems

Research Experience

Undergraduate Student Researcher *ETH Zurich* **Feb. 2022 – Jul. 2022**
Contributed to the development of evolutionary algorithms for direct policy search in Reinforcement Learning. Supervised by Prof. Petros Koumoutsakos (Harvard University), Dr. Georgios Arampatzis (ETH Zurich) and Dr. Daniel Wälchli (ETH Zurich, Harvard University).

Graduate Student Researcher *ETH Zurich* **Sept. 2023 – Jan. 2024**
Developed a specialized topological data analysis pipeline linking persistent homology to cosmic web evolution. Engaged in a high-level international project supervised by Prof. Tao Hou (DePaul University) and Dr. Tim Ophelders (TU Eindhoven).

Graduate Student Researcher *ETH Zurich* **Jan. 2024 – present**
Developed an innovative framework for embedding persistence diagrams into elements of vector spaces. Engaged in a high-level international collaboration with Dr. Vadim Lebovici (Oxford University) and Dr. Olympio Hacquard (Université Paris-Saclay).

Visiting Student Researcher *Imperial College London* **Feb. 2024 – present**
Developing of a stable, efficient algorithm for large-scale persistence diagram estimation. Supervised by Prof. Anthea Monod (Imperial College London).

Preprints

Michael Etienne Van Huffel and Matteo Palo. *LITE: A Stable Framework for Lattice-Integrated Embedding of Topological Descriptors*, 2024.

Teaching Experience

Analysis III **Sept. 2022 – Dec. 2022**
Teaching Assistant Zurich, Switzerland
- Instructor: Prof. Alessandra Iozzi
- Held tutorial lectures

Models, Algorithms and Data **Feb. 2022 – Aug. 2022**
Teaching Assistant Zurich, Switzerland
- Instructor: Prof. Jens H. Walther, Dr. Georgios Arampatzis
- Designed final exam and held tutorial lectures

Analysis III **Sept. 2021 – Dec. 2021**
Teaching Assistant Zurich, Switzerland
- Instructor: Prof. Alessandra Iozzi
- Held tutorial lectures

Technical Skills

Programming Languages	Python, C++, R, Java, Matlab, HTML, LaTeX
Tools & Technologies	Git, PyTorch, Tensorflow, SciKit, Pandas, NumPy, Gudhi
Languages	Native Italian, Professional English and German, Intermediate French