

# Hugo Yèche

## Location:

Zürich, Switzerland

## Website:

[hugoych.github.io/personal-page/](https://hugoych.github.io/personal-page/)

**LinkedIn:** Hugo Yèche

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Recent Ph.D. graduate from ETH Zürich in machine learning for healthcare, experienced in self-supervised learning and deep survival analysis for clinical sequences.

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## EDUCATION

### ETH Zürich: Bioinformatics Lab

*Ph.D. - 2020-2024*

I'm currently enrolled as a Ph.D. student under the supervision of Prof. Gunnar Rätsch. My thesis focuses on deep learning methods for clinical multivariate time series.

**Topics:** Contrastive learning, Multi-modality, Deep Survival Analysis, RL, Bayesian Learning

### ENS Paris-Saclay: MVA Master

*Master Degree - 2018-2019*

The Mathématiques, Vision, Apprentissage (MVA) Masters is a highly selective program providing advanced training in applied mathematics for challenges arising in the machine learning research field.

### Télécom Paris and EURECOM : Data Science Track

*Engineering Degree - 2016-2019*

Télécom Paris and EURECOM are among France's top French public institutions of higher education and research (Grandes Ecoles). The data science track focuses on learning the necessary theory and computer science skills to build successful machine learning applications.

### CPGE Blaise Pascal

*Preparatory Classes - 2014-2016*

Two years of intensive study in Mathematics and Physics to prepare the national engineering school admission exams.

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## WORK EXPERIENCE

### Machine Learning Research Intern

**2019-2020**

#### ETH Zurich, BMI Lab

Zurich, Switzerland

6 months experience in the Biomedical Informatics Lab of ETH Zurich. I've focused my work on representation learning by mutual information maximization for EHR applications.

### Machine Learning Research Intern

**2019**

#### Imagia

Montreal, Canada

6 months internship in the "Open Innovation Team". During this experience, I focused on interpretability for deep learning models in the medical field and specifically on concept activation vectors.

### Data Science Intern

**summer 2018**

#### Vroomly

Paris, France

In the context of a summer internship at Vroomly, a Parisian start-up, I developed a model to predict repair intervention time for more than 15000 vehicles and around 20 different interventions.

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## SKILLS

**Languages:** French *native*, English *fluent* - TOFEL iBT 112/120, German *basic*

**Computer Science:** Python, C, Bash, SQL

**Deep Learning Libraries:** Pytorch, Jax(intermediate), Tensorflow

## TEACHING

**Probabilistic Artificial Intelligence (PAI)**

ETH Zürich

Teaching assistant in the course lectured by Prof. Andreas Krause.

**2020, 2021, 2022, 2023**

Zürich, Switzerland

**Introduction to Machine Learning (IML)**

ETH Zürich

Teaching assistant in the course lectured by Prof. Fanny Yang and Prof. Andreas Krause.

**2021, 2022, 2023, 2024**

Zürich, Switzerland

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## SUPERVISION

**Semester Project:** Victoria Barenne, Yiran Li

**Master Thesis:** Severin Husmann, Phillippe Moesch, Victoria Barenne

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## REVIEWING

**NeurIPS** (2021, 2022, 2023)   **ICML** (2022, 2023, 2024)   **ICLR** (2023, 2024)

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## EXTRA-CURRICULAR ACTIVITIES

**Rugby Player**

GCZ Rugby Club

since 2000

Paris, Montreal, Zürich

I've been playing rugby my whole life, starting in France at the age of 4 and in the different countries

I've lived in: Ireland, Canada, and now Switzerland. This led me to be 1st division [National champion](#) in 2023, with my current club, Grasshopper Zürich.

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## PUBLICATIONS

**Dynamic Survival Analysis For Early Event Prediction** – \*Hugo Yèche, \*Manuel Burger, Dinara Veshchezerova, and Gunnar Rätsch. - [CHIL](#) and [TS4H@ICLR Oral](#) - **2024**

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**Temporal Label Smoothing for Early Event Prediction** – \*Hugo Yèche, \*Alizée Pace, Gunnar Rätsch, and Rita Kuznetsova. - [ICML](#) - **2023**

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**HiRID-ICU-Benchmark — A Comprehensive Machine Learning Benchmark on High-resolution ICU Data** – \*Hugo Yèche, \*Rita Kuznetsova, Marc Zimmermann, Matthias Hüser, Xinrui Lyu, Martin Faltys, and Gunnar Rätsch - [NeurIPS](#) (Dataset Track) - **2021**

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**Neighborhood Contrastive Learning Applied to Online Patient Monitoring** – \*Hugo Yèche, \*Gideon Dresdner, Francesco Locatello, Matthias Hüser, and Gunnar Rätsch. - [ICML](#) - **2021**

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**UBS: A Dimension-Agnostic Metric for Concept Vector Interpretability Applied to Radiomics** – Hugo Yèche, Justin Harrison, and Tess Berthier. - [IMIMIC@MICCAI](#) - **2019**

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**Towards Foundation Models for Critical Time Series** – Manuel Burger, Fedor Sergeev, Malte Londschi, Daphné Chopard, Hugo Yèche, Eike Christian Gerdes, Polina Leshetkina, Alexander Morgenroth, Zeynep Babür, Jasmina Bogojeska, Martin Faltys, Rita Kuznetsova, Gunnar Rätsch - [Best Paper Award AIM-FM Workshop@ NeurIPS 2024](#) - **2024**

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**Improving Neural Additive Models with Bayesian Principles** – Kouroche Bouchiat, Alexander Immer, Hugo Yèche, Gunnar Rätsch, Vincent Fortuin - [ICML](#) - **2024**

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**Delphic Offline Reinforcement Learning under Nonidentifiable Hidden Confounding** – Alizée Pace, Hugo Yèche, Bernhard Schölkopf, Gunnar Rätsch, Guy Tennenholtz - [ICLR](#) - **2024**

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**On the Importance of Step-wise Embeddings for Heterogeneous Clinical Time-series** – Rita Kuznetsova, Alizée Pace, Manuel Burger, Hugo Yèche, Gunnar Rätsch - [ML4H](#) - **2023**

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**On the Importance of Clinical Notes in Multi-modal Learning for EHR Data** – Severin Husmann, Hugo Yèche, Gunnar Rätsch, Rita Kuznetsova - [TS4H@Neurips](#) - **2022**

## TALKS

**Advancing Deep Learning-based Early Warning System in the Intensive Care Unit with Dynamic Survival Analysis**

MECOSA Symposium

November 2024

Paris

Talk at Inria Paris on using dynamic survival analysis for patient monitoring in the ICU.

**Dynamic Survival Analysis for Early Event Prediction**

TS4H@ICLR

May 2024

Vienna

Oral presentation at the Time series for Healthcare Workshop at ICLR 2024.

**Benchmarking Strategies for EHR data**

Doctoral Symposium

January 2022

Zurich

Presentation of our work, HiB, providing a reproducible benchmark for core ML methods on patient monitoring tasks.

**Contrastive Learning for Temporally-dependent samples**

Doctoral Symposium

June 2021

Zurich

Presentation of our work, NCL, proposing a self-supervised method for non-i.i.d data which we apply to online detection of adverse events.

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