

Hippolyte Pilchen

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EDUCATION

MASTER 2 MATHÉMATIQUES, VISION, APPRENTISSAGE (MVA)

2023 – 2024

Université Paris-Saclay Applied Mathematics Department (1st at the Shanghai Ranking), France. Training in high-level mathematical research for data science following mathematics classes on learning theory (*Optimal Transport, Geometric data analysis, Optimization, Image processing...*) and working on hands-on ML projects (*NLP, Probabilistic Graphical Models ...*).

ÉCOLE POLYTECHNIQUE, PALAISEAU, FRANCE

2020 – 2024

Leading French engineering school. Specialization in applied mathematics and computer science following statistics, Machine Learning and Deep Learning classes. I also took physics class on statistical physics, energy and environment. Cumulated GPA : 3.92

PREPARATORY PROGRAM, LYCÉE HENRI IV, PARIS, FRANCE

2018 – 2020

A post secondary two-year **intensive program** in advanced maths and physics leading to nationwide entrance examinations to the Grandes Ecoles for scientific studies.

ACADEMIC PROJECTS

MOLECULE RETRIEVAL FROM TEXT QUERY

Nov – Mar 2023

Under the supervision of Prof. Vazirgiannis

– Implemented and trained a model using contrastive learning to retrieve molecules from text prompts.

SEMI-SUPERVISED VARIATIONAL AUTOENCODER

Sept – Dec 2023

Under the supervision of Prof. Latouche

– Testing different frameworks based on *Capturing Label Characteristics in VAEs* to learn meaningful representations of images.

WORK EXPERIENCE

VISITING RESEARCHER, GATSBY COMPUTATIONAL NEUROSCIENCE UNIT, UCL

Apr – Aug 2024

– Developed an innovative approach to streamline the training process of generative diffusion models.

– Implemented it and conducted comparative analyses against the current state-of-the-art techniques in the field.

TEACHER ASSISTANT, LYCÉE HENRI IV

2023 – 2024

Oral examiner in math for undergraduates (second year PC*) preparing for Grandes Écoles examinations.

RESEARCH INTERN, UNIVERSITÀ BOCCONI MILANO

Mar-Jul 2023

4-month internship in the Department of Computing Sciences on algorithmic hardness in non-convex optimization problems:

– Implemented different learning heuristics and algorithms for finding low loss paths in the phase retrieval problem (SGD, MCMC...).

– Carried out an in-depth analytical study of the loss landscape of this problem using the Replica method from disordered systems.

JUNIOR DATA SCIENTIST, EKIMETRICS

Jun-Sept 2022

3-month internship:

– Working for a R&D proof of concept : running ML algorithms (LightGBM, XGBoost, GNN...) on pooled datasets from different banks to enhance money laundering detection.

SKILLS

– Strong knowledge of the programming languages python, Julia, C++, and java

– Strong experience with PyTorch and TensorFlow

– First-aid certificates (French PSC1 – PSE1 – PSE2)

Languages:

French: Mother tongue

English: Advanced (108 at TOEFL)

Spanish: Intermediate

Italian: Lower Intermediate

German: Lower Intermediate

INTERESTS

Sport: Playing rugby at a competitive level hiking (20 days in Kirghizistan), climbing and skiing.

Volunteer work: Outreach missions providing the homeless with food, clothes and comfort. Football coach for a team of underprivileged ten-year-old boys.