Théo Saulus

Graduate student at Mila | theosaulus.fr

Education

PhD – Mila, Université de Montréal
started 1/2025

Machine learning

Supervised by Simon Lacoste-Julien and Dhanya Sridhar

Engineering Master's degree – CentraleSupélec Paris-Saclay
9/2020 – 5/2024

Applied Mathematics and Data Science

One year academic exchange program at **Politecnico di Milano** and **TU Berlin**

One year research experience at **Stanford University** and **Mila**

Research Master's degree – École Normale Supérieure Paris-Saclay
9/2023 – 5/2024

Mathematics and Machine Learning

Alongside my engineering degree – Master MVA

Bachelor's degree – Sorbonne Université
9/2020 – 6/2021

Philosophy

Alongside my scientific studies – Direct admission in final year of the bachelor

Preparatory classes to Grandes Écoles – Lycée Sainte-Geneviève
9/2017 – 7/2020

Physics, Mathematics, Chemistry

Intensive undergraduate program for the national competitive entrance exams

Work experience

Research intern – InstaDeep
5/2024 – 11/2024 *6 months*

Protein inverse folding using pretrained protein LMs and discrete flow matching, and improving **protein structure tokenization**, supervised by Jérémie Donà

Student project – Inria Saclay & Mila
10/2023 – 5/2024 *8 months*

Improving **frame-averaging equivariant GNNs** performance-scalability trade-off for catalyst discovery, supervised by Fragkiskos Malliaros (Inria) and David Rolnick (Mila)

Research intern – Mila, Yoshua Bengio's group
4/2023 – 9/2023 *6 months*

Bayesian causal discovery, learning large-scale Bayesian networks with generative flow networks, supervised by Yoshua Bengio

Visiting student researcher – Stanford University, Gentles Lab.
9/2022 – 3/2023 *7 months*

Degenerative disease profiling from multiplexed imaging, supervised by Andrew Gentles:

- Deriving **Bayesian networks** of **protein interactions**
- **Characterizing tumor micro-environments** with GNNs

Statistician intern – CNRS, Signals and Systems Lab.
2/2022 – 4/2022 *2 months*

Identifying bacteria of the microbiota explaining **kidney transplant rejection** using **phylogeny informed kernels**, supervised by Arthur Tenenhaus

Research assistant intern – CEA Saclay
6/2021 – 7/2021 *2 months*

Testing of a non-destructive **eddy current sensor**, supervised by Dr. Denis Premel

Academic Service

ICLR'25 Workshop Frontiers in Probabilistic Inference **2025**
NeurIPS'24 Workshop Causality and Large Models **2024**

Awards

iGEM Gold Medal – awarded world best Hardware, nominated for world best Software **2023**
France-Stanford Center for Interdisciplinary Studies fellowship – 8 recipients nationwide **2022**
CentraleSupélec prize for **community service and academic excellence** – 9 recipients among 4700 students **2021**
European **Erasmus+** scholarship **2021**
1st prize of **CentraleSupélec Alumni** project idea **2020**
Provence region merit prize for high school students **2017**
Cicero **national Latin translation** contest laureate **2016**

Volunteering

Elected member of the academic board – Université Paris-Saclay
2/2022 – 2/2024
2 years

Contributing to deliberations, and having a **deciding vote** on academic matters of Université Paris-Saclay: financing students' projects, discussing new graduate tracks, and updating current ones

Team member – iGEM Evry-Paris-Saclay team
5/2023 – 11/2023
6 months

Software group, implemented simple **pathfinding algorithms** for a microfluidics plate
Human Practice group, discussed the **ethics of optogenetics and automation in bio labs**

Student expert – High Council for the Evaluation of Research and Higher Ed.
1/2021 – 5/2022
1.5 years

Member of **evaluation committees** of engineering schools for the HCÉRES: conducting staff interviews, assessing activity reports, writing public accounts

Project manager – National Board of French Engineering Students
9/2020 – 10/2021
1 year

Defined a new **membership strategy**, reached out to student associations during the pandemic
BNEI represents all 185,000 French engineering students by federating unions and representatives

Chairman – IEEE Paris-Saclay student branch
9/2020 – 10/2021
1 year

Hosted a **project contest**: contacting juries, raising a 1000€ grant, broadcast live the event
Supervised **laboratory visits**: setting up 6 visits for around 100 students in total
Presented research at CentraleSupelec to the incoming student batch (~900 students)

Scientific Outreach

Contributor – Data For Good, France
2/2023 – 9/2023
7 months

Co-author of the white paper "The great challenges of Generative AI", published in July 2023

Teacher – Stanford Splash, California, USA
11/2022
1 weekend

Taught the classes "**Philosophy of time**" and "**Creativity and AI**" to high school students
Splash is a two-day marathon of classes in open to all students from 12 to 18 for free

Tutor – OSER student association, France
9/2020 – 6/2021
9 months

Intervened weekly for students from underprivileged areas to help them **fulfil their ambitions** and broaden their cultural and scientific horizons

Various Skills

Programing : Python (PyTorch, JAX), R (bnlearn, Stan)

Languages: native French, fluent English (TOEFL 113/120), advanced German (B2 level)