

Solal Nathan

Education

PhD

PhD • Laboratoire Interdisciplinaire des Sciences du Numérique

Job Recommender Systems: An Optimal Transport Approach
Under the supervision of Michèle Sebag and Philippe Caillou.

Saclay
2023–present

Master's degree

M2 Internship • Laboratoire Interdisciplinaire des Sciences du Numérique

Combating Unemployment: Data, Recommendations and Fairness. Recommender systems, optimal transport and causality.

Saclay
2022

M2 IA • Université Paris-Saclay

Research M2 with courses in Machine Learning, Reinforcement Learning, Graphical Models, Probabilistic Generative Models, Advanced Optimisation, Learning Theory, NLP, Signal Processing and more

Saclay
2021–2022

ARPE • IOSB, Fraunhofer

Year long internship (*Année de Recherche Pré-doctorale à l'Étranger*) in Machine Learning and Computer Vision. 4D reconstruction using implicit function methods, novel view synthesis and neural rendering. Emphasis on NeRF-based methods. Complemented with SfM and MVS.

Karlsruhe, Germany

2020–2021

M1 • ENS Paris-Saclay/Université Paris-Saclay

EEA (Electrical Engineering). Programme with courses in image and signal processing, information theory, embedded programming, computer science, energy conversion, and control.

Cachan/Saclay
2019–2020

Research Project • ENS Paris-Saclay

Learnt how to build a physical hexapod from the ground up, simulate it using OpenAI gym and PyBullet and teach it 3D locomotion with perturbations and other Sim2Real techniques.

Cachan
2019–2020

Undergraduate

SAPHIRE programme - equivalent to a Bachelor's degree in Engineering • ENS Paris-Saclay

The SAPHIRE programme is an intensive, multidisciplinary course focusing on mechanical, civil and electrical engineering. It aims to train future researchers and professors. Took courses in mathematics, material resistance, numerical analysis, automation, optimisation, probability, electronics and more. I majored in electrical engineering in the second semester.

Cachan
2018–2019

SAPHIRE Project • ENS Paris-Saclay

School project to build an autonomous vehicle using embedded C and a LIDAR. Based on a RC model but without the remote to operate it.

Cachan
2018–2019

Classes préparatoires • Lycée Branly

Two-year intensive course preparing for a highly competitive exam for the admission to the French Grandes Écoles.

Lyon
2016–2018

High School

Baccalauréat • Lycée Martinière Monplaisir

Technological Baccalauréat (secondary school diploma). Obtained with highest honours.

Lyon
2014–2016

Experience

Head secretary and technical member • Crans

Associative Internet service provider on Cachan's campus with more than 800 members. Technical training in sysadmin. Gave talks about various subject to train others. Head secretary in 2018–2019. Member of the Board of directors in 2020–2021.

Cachan
2018–present

Head Treasurer, President, Vice-president and technical member • Aurore

Associative Internet service provider in Saclay with more than 600 members. Set up a 10G backbone network between multiple student residence. Sysadmin training. Set up multiple services. Created a 110K investment plan on 3 years. Head Treasurer in 2018–2019. President in 2019–2020. Vice-president in 2020–2021.

Saclay
2018–present

Publications

Conference Paper (Extended Abstract) and Poster • BayLearn

On the impact of overfitting in learning to rank using a margin loss: a case study in job recommender systems

San Francisco
Oct. 2022

Conference Paper and Poster • FEAST, ECML

Grenoble
Sept. 2022

Recommender system in a non-stationary context: recommending job ads in pandemic times

Conference Paper (Extended Abstract) and Poster • JDSE

On the impact of overfitting in learning to rank using a margin loss: a case study in job recommender systems

Saclay

Sept. 2022

Articles in a popular science journal • Revue 3EI

Wrote two articles in the 108th publication of the journal.

2022

One on an introduction to statistical learning and the other on word embedding.

Teaching

TP/TD Introduction aux Sciences de Données • L1 Université Paris-Saclay

<https://nicolas.thiery.name/Enseignement/IntroScienceDonnees/> - Supervisor for practical and seminar work

Saclay

2023 – present

TP/TD Introduction à l'Apprentissage Statistique • L3 Université Paris-Saclay

Supervisor for practical and seminar work

Saclay

2023 – present

CM Advanced Optimization and Automated Machine Learning • M2 Université Paris-Saclay

Wrote a chapter of the lecture notes and gave 3 lectures on optimization

Saclay

2023 – present

Computer Skills

Advanced: Python, GNU/Linux, \LaTeX , Sysadmin

Working knowledge: C/C++, Git, PyTorch, Scikit-learn, Pandas (Polars), OpenAI Gym and Baseline, Tensorflow, Docker, Devops, CI/CD, HTML/CSS/JS

Languages

French: Native speaker

English: Advanced (*Cambridge Advanced C1 - 197/210, CEFR*)

Spanish: Working knowledge

Interests

Sports: Bouldering, rock climbing, calisthenics, boxing, martial arts and running

Games: Board games, video games and tabletop role playing games

Reading: Fiction: Medieval fantasy, fantasy, science fiction, ...

Non-fiction: Psychology, Sociology, Rationality, AI for good, Robustly Beneficial IA, Mathematics, ...

Theatre: Improvisational theatre (Improv)

References

Thomas Rodet

Head of Department

Teacher

EMAIL REDACTED

Anthony Juton

ENS Paris-Saclay professor

Teacher and research project mentor

EMAIL REDACTED

Emanuel Aldea

University lecturer and researcher

Internship mentor (M1)

EMAIL REDACTED

Thomas Pollok

Researcher

Internship mentor (ARPE)

EMAIL REDACTED

Isabelle Guyon

University lecturer and researcher

Internship referent (M2) and Humania working group lead

EMAIL REDACTED

Michèle Sebag

University lecturer and researcher

Internship mentor (M2), PhD supervisor

EMAIL REDACTED