TOM HUIX

0629345371 | tom.huix@polytechnique.edu | linkedin.com/in/tom-huix/ | thuix.github.io/aboutme/

EDUCATION

École Polytechnique (CMAP) — Palaiseau, France
PhD student supervised by Eric Moulines, Alain Durmus and Anna Korba. Working on contextual bandit with Thompson Sampling and Bayesian Neural Networks. — *2021 – 2024*

ENS Paris Saclay / MVA master (Mathematics, Vision and Learning) — Gif-sur-Yvette, France
Master of science specialized in computer vision, applied mathematics and machine learning. — *2020 – 2021*

Relevant courses:

- Deep Learning V. LEPETIT
- Image Denoizing: the human machine competition J-M Morel, G. FACCIOLO, P. ARIAS
- Probabilistic Graphical Model P. LATOUCHE, N. CHOPIN
- Deep Learning in practice G. CHARPIAT
- Bayesian Machine Learning R. BARDENET, J. ARBEL
- Graphs in Machine Learning D. CALANDRIELLO
- Sparse Representation S. MALLAT

CentraleSupélec, Engineering School — Gif-sur-Yvette, France
One of the top French Engineering School, with a specialization in Machine Learning — *2017 – 2021*

Michel Montaigne, Preparatory classes for the French "Grandes Ecoles" — Bordeaux, France
Intensive preparation in Math and Physics for the highly competitive entrance exams to the French Grandes écoles. — *2015 – 2017*

EXPERIENCE

Research intern (6 months internship) — Apr. 2021 – Sep. 2021
Huawei — *Paris*

- Worked on Neural Networks with binary weights called Binary Neural Networks. Developed a new technique for the training of these algorithms, which allows to reduce the memory consumption during both the training and the forward pass.

Data Scientist (6 months internship) — Jan. 2020 – July 2020
Upskills — *Singapore*

- Developed a financial emails classifier (based on BERT algorithm) for one of the largest asian Bank.
- Designed an unsupervised email labeler (based on Sentence-BERT algorithm). Worked on financial email clustering.

Data Scientist (6 months internship) — July 2019 – Dec. 2019
BeSport — *Paris, France*

- Developed a text classifier for sport articles (based on LSTM network) for a social network called BeSport

RESEARCH PAPER

- T. Huix, S. Majewski, A. Durmus, E. Moulines and A. Korba. **Variational Inference for Overparametrized Bayesian Neural Networks: a Theoretical and Empirical Study**. Submitted, 2024.

- T. Huix, M. Zhang and A. Durmus. **Tight Regret and Complexity Bounds for Thompson Sampling via Langevin Monte Carlo**. accepted at Artificial Intelligence and Statistics (AISTATS) 2023.

- T. Huix, P. Clavier, A. Durmus. **VITS : Variational Inference Thomson Sampling for contextual bandits**. Accepted at International Conference on Machine Learning (ICML) 2024.

- A. Descours, T. Huix, B. Nectoux, A. Guillin, E. Moulines, and M. Michel. **Law of Large Numbers for Bayesian two-layer Neural Network trained with Variational Inference**. Accepted at Conference on Learning Theory (COLT) 2023.

- T. Huix, A. Korba, A. Durmus, E. Moulines. **Theoretical Guarantees for Variational Inference with Fixed-Variance Mixture of Gaussians**. Accepted at International Conference on Machine Learning (ICML) 2024.

- A. Descours, T. Huix, B. Nectoux, A. Guillin, E. Moulines, and M. Michel. **Central Limit Theorem for Bayesian Neural Networks trained with Variational Inference**. Submitted 2024.

Reviewing

- Neural Information Processing System (NeurIPS)

- International Conference of Machine Learning (ICML)

- Artifical Intelligence and Statistics (AISTATS)

Skills

- **Software proficiency**: Latex, Slurm, Git

- **Programming language**: Python, C++, Java, Caml

- **Deep Learning Stack**: Jax, Pytorch, Pytorch Lightning, WandB

Languages

French: Native
English: Fluent