TrungTin Nguyen

Long Curriculum Vitae

Postdoctoral Research Fellow
The University of Queensland
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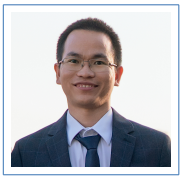
Short CV Version, January 20, 2025



"The book of nature is written in the language of mathematics." (Galileo G., 1890).
"Essentially, all models are wrong, but some models that know when they are wrong, are useful." (adapted from George E.P. Box, 1979).

Academic Appointment

10/02/2025–present **Postdoctoral Research Fellow/Lecturer (Level B)**, *School of Mathematical Sciences, Queensland University of Technology*, Brisbane, Australia.
Topic: Computational Statistics and Inference for the ARC Centre of Excellence for the Mathematical Analysis of Cellular Systems (MACSYS).
Mentors: Matthew Simpson, and Christopher Drovandi.

04/12/2023–03/12/2024 **Postdoctoral Research Fellow (Level A)**, *School of Mathematics and Physics, The University of Queensland*, Brisbane, Australia.
Topic: Mathematical analysis of operator learning with artificial neural networks.
Mentors: Hien Duy Nguyen, and Xin Guo.

01/01/2022–30/11/2023 **Postdoctoral Research Fellow (Contract Inria + Contract UGA MIAI Grenoble Alpes during 01/05/2023–30/09/2023)**, *Statify Team, Inria centre at the University Grenoble Alpes*, Grenoble, France.
Topic: Bayesian model selection and simulated-based inference for complex and high-dimensional models.
Mentors: Florence Forbes, and Julyan Arbel.

Education

2019–2022 **Doctor of Philosophy**, *Normandie Université*, Caen, France.
Major in Statistics and Data Science.
Thesis title: Model selection and approximation in high-dimensional mixture of experts models: from theory to practice.
Advisors: Faïcel Chamroukhi. **Rapporteurs**: Sylvain Arlot, and Judith Rousseau.
Committee members: Christophe Biernacki, Hien Duy Nguyen, and Gaëlle Chagny.

2017–2019 **Master of Science, Technology and Health**, *Université d'Orléans*, Orléans, France, GPA: 18/20.
Mention: *Très Bien*. Major in Applied Mathematics.
Thesis title: Reinforcement learning for resource allocation problems using a partially observable Markov decision process.
Advisor: Le Thi Hoai An.

2013–2017 **Bachelor of Science**, *Vietnam National University-Ho Chi Minh Univeristy of Science (VNU-HCM)*, Ho Chi Minh City, Vietnam, GPA: 9.17/10. Rank: 2/1557, Summa Cum Laude.
Honors Program in Mathematics and Computer Science. Major in Probability and Statistics.
Thesis title: Multiplicative censoring model.
Advisor: Dang Duc Trong.

Research Interests

Statistical learning Model selection (minimal penalties and slope heuristics, non-asymptotic oracle inequalities), simulation-based inference (approximate Bayesian computation, Bayesian synthetic likelihood, method of moments), Bayesian nonparametrics (Gibbs-type priors, Dirichlet process mixture), high-dimensional statistics (variable selection via Lasso and penalization, graphical models), uncertainty estimation, missing data (imputation methods, likelihood-based approaches with missing data).

Machine learning Supervised learning (deep hierarchical mixture of experts, deep neural networks), unsupervised learning (clustering via mixture models, dimensionality reduction via principal component analysis, deep generative models via variational autoencoders, generative adversarial networks and normalizing flows), reinforcement learning (partially observable Markov decision process), structured prediction (probabilistic graphical models).

Optimization Robust and effective optimization algorithms for mixture models (MM algorithm, expectation–maximization, variational Bayesian inference, Markov chain Monte Carlo methods), difference of convex algorithm, optimal transport (Wasserstein distance, voronoi loss function)

Applications Natural language processing (large language model, text classification/retrieval, openChat), remote sensing (planetary science, e.g., retrieval of Mars surface physical properties from hyper-spectral images), signal processing (sound source localization), biostatistics (genomics, transcriptomics, proteomics), computer vision (image segmentation, image classification/retrieval), quantum chemistry, drug discovery, and materials science (supervised and unsupervised learning on molecular modeling).

Publications

Total **7 Peer-reviewed Journal Publications** (Electronic Journal of Statistics, Statistics and Computing, Transactions on Machine Learning Research, Journal of Nonparametric Statistics, Communications in Statistics - Theory and Methods) + **13 Peer-reviewed Conference Publications** (3 ICML, 2 NeurIPS (1 Spotlight), 1 AISTATS, 1 IJCNN, 1 AJCAI) + **5 Preprints**.

Deep neural networks

2024 Hoai-Chau Tran, Duy MH Nguyen, Manh-Duy Nguyen, **TrungTin Nguyen**, Ngan Hoang Le, Pengtao Xie, Daniel Sonntag, James Zou, Binh T. Nguyen, and Mathias Niepert. Accelerating Transformers with Spectrum-Preserving Token Merging. In ***Advances in Neural Information Processing Systems, NeurIPS 2024,*** *Acceptance rate 25.8% over 15671 submissions*, December 2024.

2024 Quang Pham, Giang Do, Huy Nguyen, **TrungTin Nguyen**, Chenghao Liu, Mina Sartipi, Binh T Nguyen, Savitha Ramasamy, Xiaoli Li, Steven Hoi, and Nhat Ho. CompeteSMoE–Effective Training of Sparse Mixture of Experts via Competition. *arXiv preprint arXiv:2402.02526*, 2024.

2024 Duy MH Nguyen, Nina Lukashina, Tai Nguyen, An T Le, **TrungTin Nguyen**, Nhat Ho, Jan Peters, Daniel Sonntag, Viktor Zaverkin, and Mathias Niepert. Structure-Aware E(3)-Invariant Molecular Conformer Aggregation Networks. In ***Proceedings of the 41st International Conference on Machine Learning, ICML 2024****, Acceptance rate 27.5% over 9,473 submissions*, July 2024.

2024 Duy M. H. Nguyen, Nghiem T. Diep, Trung Q. Nguyen, Hoang-Bao Le, Tai Nguyen, Tien Nguyen, **Nguyen, TrungTin**, Nhat Ho, Pengtao Xie, Roger Wattenhofer, James Zhou, Daniel Sonntag, and Mathias Niepert. LoGra-Med: Long Context Multi-Graph Alignment for Medical Vision-Language Model. *arXiv preprint arXiv:2410.02615*, Oct 2024.

2023 Truong Giang Do, Huy Khiem Le, Quang Pham, **TrungTin Nguyen**, Binh T. Nguyen, Thanh-Nam Doan, Chenghao Liu, Savitha Ramasamy, Xiaoli Li, and Steven HOI. HyperRouter: Towards Efficient Training and Inference of Sparse Mixture of Experts. In ***Proceedings of the 2023 Empirical Methods in Natural Language Processing, EMNLP 2023 Main,*** *Acceptance rate 14% over 1041 submissions*, December 2023.

Asymptotic statistics

2024 Jacob Westerhout, **TrungTin Nguyen**, Xin Guo, and Hien Duy Nguyen. On the Asymptotic Distribution of the Minimum Empirical Risk. In ***Proceedings of the 41st International Conference on Machine Learning, ICML 2024***, *Acceptance rate 27.5% over 9,473 submissions*, July 2024.

Approximation capabilities and convergence rates of the mixture of experts models

2024 Huy Nguyen, **TrungTin Nguyen**, Khai Nguyen, and Nhat Ho. Towards Convergence Rates for Parameter Estimation in Gaussian-gated Mixture of Experts. In ***Proceedings of The 27th International Conference on Artificial Intelligence and Statistics, AISTATS 2024,*** *Acceptance rate 27.6% over 1980 submissions*, May 2024.

2024 Huy Nguyen, Pedram Akbarian, **TrungTin Nguyen**, and Nhat Ho. A General Theory for Softmax Gating Multinomial Logistic Mixture of Experts. In ***Proceedings of the 41st International Conference on Machine Learning, ICML 2024***, *Acceptance rate 27.5% over 9,473 submissions*, July 2024.

2024 Mark Chiu Chong, Hien Duy Nguyen, and **TrungTin Nguyen**. Risk Bounds for Mixture Density Estimation on Compact Domains via the h-Lifted Kullback–Leibler Divergence. *Transactions on Machine Learning Research*, 2024.

2023 Huy Nguyen, **TrungTin Nguyen**, and Nhat Ho. Demystifying Softmax Gating Function in Gaussian Mixture of Experts. In ***Advances in Neural Information Processing Systems, NeurIPS 2023 Spotlight,*** *Acceptance rate 3.6% over 12343 submissions*, December 2023.

2022 **TrungTin Nguyen**, Faicel Chamroukhi, Hien D. Nguyen, and Geoffrey J. McLachlan. Approximation of probability density functions via location-scale finite mixtures in Lebesgue spaces. ***Communications in Statistics - Theory and Methods***, pages 1–12, May 2022.

2021 Hien Duy Nguyen, **TrungTin Nguyen**, Faicel Chamroukhi, and Geoffrey John McLachlan. Approximations of conditional probability density functions in Lebesgue spaces via mixture of experts models. ***Journal of Statistical Distributions and Applications***, volume 8, page 13, 2021.

2020 **TrungTin Nguyen**, Hien D Nguyen, Faicel Chamroukhi, and Geoffrey J McLachlan. Approximation by finite mixtures of continuous density functions that vanish at infinity. ***Cogent Mathematics & Statistics***, volume 7, page 1750861. Cogent OA, 2020.

Model selection

2023 **TrungTin Nguyen**, Dung Ngoc Nguyen, Hien Duy Nguyen, and Faicel Chamroukhi. A non-asymptotic risk bound for model selection in high-dimensional mixture of experts via joint rank and variable selection. In ***Australasian Joint Conference on Artificial Intelligence 2023, AJCAI 2023 Long Oral Presentation***, *Acceptance rate 11% over 213 submissions*, Brisbane, Australia, November 2023.

2022 **TrungTin Nguyen**, Hien Duy Nguyen, Faicel Chamroukhi, and Florence Forbes. A non-asymptotic approach for model selection via penalization in high-dimensional mixture of experts models. ***Electronic Journal of Statistics***, volume 16, pages 4742 – 4822, 2022. Publisher: Institute of Mathematical Statistics and Bernoulli Society.

2022 **TrungTin Nguyen**, Faicel Chamroukhi, Hien Duy Nguyen, and Florence Forbes. Model selection by penalization in mixture of experts models with a non-asymptotic approach. In *JDS 2022 - 53èmes Journées de Statistique de la Société Française de Statistique (SFdS)*, Lyon, France, June 2022.

2021 **TrungTin Nguyen**, Faicel Chamroukhi, Hien Duy Nguyen, and Florence Forbes. Non-asymptotic model selection in block-diagonal mixture of polynomial experts models. *arXiv preprint arXiv:2104.08959.*, 2021.

2021 **TrungTin Nguyen**. *Model Selection and Approximation in High-dimensional Mixtures of Experts Models: From Theory to Practice*. Ph.D. Thesis, Normandie Université, December 2021.

2020 **TrungTin Nguyen**, Hien D Nguyen, Faicel Chamroukhi, and Geoffrey J McLachlan. An l_1-oracle inequality for the Lasso in high-dimensional mixtures of experts models. *arXiv preprint arXiv:2009.10622*, 2020.

Bayesian nonparametrics

2024 **TrungTin Nguyen**, Florence Forbes, Julyan Arbel, and Hien Duy Nguyen. Bayesian nonparametric mixture of experts for inverse problems. *Forthcoming in the* ***Journal of Nonparametric Statistics***, October 2024.

2022 **TrungTin Nguyen**, Florence Forbes, and Julyan Arbel. Bayesian nonparametric mixture of experts for high-dimensional inverse problems. In *BNP13 – 13th Conference on Bayesian Nonparametrics*, Puerto Varas, Chile, 2022.

Simulation-based inference

2024 Hien Duy Nguyen, **TrungTin Nguyen**, and Florence Forbes. Bayesian Likelihood Free Inference using Mixtures of Experts. In ***International Joint Conference on Neural Networks, IJCNN 2024****, Acceptance rate 52% over 3272 submissions*, June 2024.

2023 Hien Duy Nguyen, **TrungTin Nguyen**, Julyan Arbel, and Florence Forbes. Concentration results for approximate Bayesian computation without identifiability. *Preprint. hal-03987197*, February 2023.

2022 Florence Forbes, Hien Duy Nguyen, **TrungTin Nguyen**, and Julyan Arbel. Supporting Information Summary statistics and discrepancy measures for approximate Bayesian computation via surrogate posteriors. ***Statistics and Computing***, volume 32, page 85, October 2022.

2022 Florence Forbes, Hien Duy Nguyen, **TrungTin Nguyen**, and Julyan Arbel. Mixture of expert posterior surrogates for approximate Bayesian computation. In *JDS 2022 - 53èmes Journées de Statistique de la Société Française de Statistique (SFdS)*, Lyon, France, June 2022.

2022 Florence Forbes, Hien Duy Nguyen, **TrungTin Nguyen**, and Julyan Arbel. Summary statistics and discrepancy measures for approximate Bayesian computation via surrogate posteriors. ***Statistics and Computing***, volume 32, page 85, October 2022.

2021 Julyan Arbel, Florence Forbes, Hien Duy Nguyen, and **TrungTin Nguyen**. Approximate Bayesian computation with surrogate posteriors. In *ISBA 2021 - World Meeting of the International Society for Bayesian Analysis*, Marseille, France, June 2021.

Fellowships and Awards

06/2024 Early Career Travel Award (1000 AUD) granted by The Ninth Pacific Rim Conference in Mathematics.

2023–2024 Postdoctoral Research Fellowships granted by Australian Research Council Discovery Projects 230100905, The University of Queensland, Australia.

10/2022 BNP13 Junior Travel Award (1000 USD) granted by International Society for Bayesian Analysis.

2022–2025 Qualifications aux fonctions de Maître de Conférences. Section 26. Mathématiques appliquées et applications des mathématiques. *Designated rapporteurs*: Fabienne Comte, and Fanny Villers.

2022–2023 Postdoctoral Fellowships granted by Inria centre at the University Grenoble Alpes and MIAI Grenoble Alpes, France.

2018–2021 Ph.D. Scholarship granted by Ministère de l'Enseignement Supérieur et de la Recherche, France.

2017 Highest Distinction Graduation Award and Outstanding Student Award, VNU-HCM, Vietnam.

2014–2017 Scholarship of the National Program for the Development of Mathematics 2010–2020 of Vietnam Institute for Advanced Study in Mathematics (VIASM), Vietnam.

Supervision and Teaching Experiences

07–11/2024: **Data Science Capstone Project 1 (DATA7901) (Supervision: 4 Students). Responsible professor: Slava Vaisman**, *Postgraduate Coursework, The University of Queensland*, Australia.

02–11/2024: **Introduction to Data Science (DATA7001) (Guest Lecturer, Tutorial Content and Practical Session, 30h). Responsible professor: Xin Guo**, *Postgraduate Coursework, The University of Queensland*, Australia.

01–04/2023: **Statistical analysis and document mining (Lecturer for Complementary Course, 17h). Responsible professor: Pedro Rodrigues**, *Master 1 of Applied Mathematics, Université Grenoble Alpes*, France.

09–12/2022: **Méthodes statistiques pour la biologie - STA301 (Lecturer and Tutorial Content, 23h). Responsible professor: Julien Chevallier**, *Licence Sciences et Technologies - BIO, Université Grenoble Alpes*, France.

Fall 2018: **Mathematical and numerical foundations of modeling and simulation using partial differential equations (Lecturer for Preparatory Course, 24h). Responsible professor: Jing-Rebecca Li (IDEFIX team, Inria)**, *French-Vietnam Master 2 in Applied Mathematics, VNU-HCM*, Vietnam.

Fall 2017: **Principles of Mathematical Analysis (Teaching Assistant, 30h). Responsible professor: Duong Minh Duc**, *Bachelor in Mathematics and Computer Science, VNU-HCM*, Vietnam.

Collaborators (in random order)

1. Geoff McLachlan: Professor of Statistics (Personal Chair), School of Mathematics and Physics, The University of Queensland, Brisbane, Australia.
2. Florence Forbes: Senior Researcher (Director of Research), Statify Team, Inria centre at the University Grenoble Alpes, Grenoble, France.
3. Faïcel Chamroukhi: Professor of Statistics and Data Science, Université de Caen Normandie, Lab. of Mathematics Nicolas Oresme (LMNO), UMR CNRS 6139; Scientific head of Data Science and Artificial Intelligence, IRT SystemX, the Research & Technology Organisation of Université Paris-Saclay, Palaiseau, France.
4. Hien Duy Nguyen: Associate Professor, School of Computing, Engineering and Mathematical Sciences, La Trobe University, Bundoora, Victoria, Australia; and Professor, Institute of Mathematics for Industry, Kyushu University, Fukuoka, Japan.
5. Nhat Ho: Assistant Professor, Department of Statistics and Data Sciences, The University of Texas at Austin, Austin, Taxas, United States.
6. Xin Guo: Senior Lecturer, School of Mathematics and Physics, The University of Queensland, Brisbane, Australia.
7. Julyan Arbel: Associate Researcher (Chargé de Recherche), Statify Team, Inria centre at the University Grenoble Alpes; Laboratoire Jean Kuntzmann, member of Université Grenoble Alpes Grenoble, Grenoble, France.
8. Binh Nguyen: Associate Professor of Computer Science and the Head of the Department of Computer Science, Faculty of Mathematics and Computer Science, University of Science (VNUHCM-US), Vietnam National University (VNUHCM), Ho Chi Minh City, Vietnam.
9. Quang Pham: Research Scientist, Machine Intellection department, Institute for Infocomm Research (I2R), A*Star, Singapore.
10. Huy Nguyen: PhD Candidate, Department of Statistics and Data Sciences, The University of Texas at Austin, Austin, Taxas, United States.
11. Khai Nguyen: Phd Candidate, Department of Statistics and Data Sciences, The University of Texas at Austin, Austin, Taxas, United States.
12. Dung Ngoc Nguyen: Postdoctoral Research Fellow, Department of Statistical Sciences, University of Padova, Padova, Italy.
13. Ho Minh Duy Nguyen: PhD Candidate, Max Planck Research School for Intelligent Systems & DFKI, Stuttgart, Germany.
14. Giang Truong Do: Master's Student, The University of Tennessee at Chattanooga, Tennessee, United States.
15. Le Huy Khiem: PhD Student, University of Notre Dame, Indiana, United States.
16. Jacob Westerhout: PhD Student, School of Mathematics and Physics, The University of Queensland, Brisbane, Australia.

Professional Services

Journal Reviewing (See certificate)

IEEE Transactions on Information Theory (The Institute of Electrical and Electronics Engineers): 1 paper.

Electronic Journal of Statistics (Institute of Mathematical Statistics, Bernoulli Society for Mathematical Statistics and Probability): 2 papers.

Journal of the American Statistical Association (Taylor Francis): 2 papers.

Statistics and Computing (Springer): 2 papers.

Computational Statistics and Data Analysis (Elsevier): 4 papers.

Neurocomputing (Elsevier): 1 paper.

Biometrical Journal (Wiley): 2 papers.

Australian & New Zealand Journal of Statistics (Wiley): 2 paper.

Communications in Statistics - Theory and Methods (Taylor Francis): 2 papers.

Conference Reviewing

International Conference on Artificial Intelligence and Statistics (AISTATS): 2 papers.

International Conference on Learning Representations (ICLR): 3 papers.

Annual Conference on Neural Information Processing Systems (NeurIPS): 1 paper.

Annual Meeting of the Association for Computational Linguistics (ACL): 3 papers.

Proceedings of the Research School on Statistics and Data Science (RSSDS 2019) (Springer): 2 papers.

Editorial Board/Program Committee

Australian Statistical Conference 2025 (ASC2025): Scientific Program Committee.

The IEEE World Congress on Computational Intelligence – The International Joint Conference on Neural Networks (IJCNN 2024): Session Chair.

The Queensland Branch of the Statistical Society of Australia (SSA QLD 2024): General Councillor.

Research School on Statistics and Data Science (RSSDS 2019, Springer): Program Committee.

International Journal of Machine Intelligence and Sensory Signal Processing (Inderscience): Associate Editors.

Professional Memberships

03/2024 Statistical Society of Australia (SSA).

08/2021 Institute of Mathematical Statistics (IMS).

01/2020 International Society for Bayesian Analysis (ISBA).

01/2022 Société Française de Statistique (SFdS).

Conference, Seminar, Workshop Presentations

07/2024 Towards Understanding Mixture of Experts at Bayesian Learning and Network Analysis Workshop, Vietnam Institute for Advanced Study in Mathematic, Hanoi, Vietnam (Invited Speaker).

07/2024 Bayesian Likelihood Free Inference Using Mixtures of Experts at The IEEE World Congress on Computational Intelligence, Yokohama, Japan (Oral presentation).

06/2024 Demystifying Softmax Gating Function in Gaussian Mixture of Experts at The Ninth Pacific Rim Conference in Mathematics, Mathematical Sciences Institute (MSI), Australian National University (ANU), Darwin, Australia (Contributed Talk and Poster Session).

05/2024 Towards Convergence Rates for Parameter Estimation in Gaussian-gated Mixture of Experts at The Grenoble Artificial Intelligence for Physical Sciences, Université Grenoble Alpes, Grenoble, France (Poster Session).

05/2024 Demystifying parameter estimation in mixtures of experts at Bayes-Duality Seminar, The Bayes-Duality Project, Online (Invited Speaker).

08/2023 Summary statistics and discrepancy measures for approximate Bayesian computation via surrogate posteriors at The 10th Vietnam Mathematical Congress, Da Nang, Vietnam (Oral presentation).

07/2023 Summary statistics and discrepancy measures for approximate Bayesian computation via surrogate posteriors at Summer school on Bayesian statistics and computation, Ho Chi Minh, Vietnam (Poster presentation).

12/2022 A non-asymptotic approach for model selection via penalization in high-dimensional mixture of experts models at 2022 IMS International Conference on Statistics and Data Science (ICSDS), Florence, Italy (Oral presentation).

11/2022 A non-asymptotic approach for model selection via penalization in high-dimensional mixture of experts models at Séminaire Données et Aléatoire Théorie & Applications, Laboratoire Jean Kuntzmann, Grenoble, France (Invited Speaker).

10/2022 Bayesian nonparametric mixture of experts for high-dimensional inverse problems at BNP13 – 13th Conference on Bayesian Nonparametrics, Puerto Varas, Chile (Oral presentation).

06/2022 Model selection by penalization in mixture of experts models with a non-asymptotic approach at JDS 2022 - 53èmes Journées de Statistique de la Société Française de Statistique (SFdS), Lyon, France (Oral presentation).

05/2022 A non-asymptotic approach for model selection via penalization in high-dimensional mixture of experts models at Seminar on Applied Statistics, Vietnam Institute for Advanced Study in Mathematics, Vietnam (Invited Speaker).

04/2022 A non-asymptotic approach for model selection via penalization in mixture of experts models at Statlearn 2022, Institut d'Etudes Scientifiques de Cargèse, Corsica (Poster presentation)

03/2022 A non-asymptotic model selection in mixture of experts models at Séminaire de Statistique Rennais, ENSAI École Nationale de Statistique et Analyse de l'Information, Rennes, France (Invited Speaker).

10/2021 Model Selection and Approximation in High-dimensional mixture of experts Models: From Theory to Practice at Jed 2021: Journée scientifique de l'École Doctorale 2021, Le Havre, France (Oral presentation).

09/2021 Approximation and non-asymptotic model selection in mixture of experts models at Journée Thématique: "Intelligence Artificielle - Applications et défis mathématiques", INSA Rouen Normandie, Rouen, France (Poster session).

06/2021 Non-asymptotic model selection in mixture of polynomial experts models at MHC2021 Mixtures Hidden Markov model Clustering, Institut de Mathématique d'Orsay, Paris, France (Poster session).

04/2021 Non-asymptotic model selection for the Gaussian-gated localized mixture of experts regression models at MiMo 2021: Workshop on Mixture Models, Laboratoire de Mathématiques Raphaël Salem, Université de Rouen Normandie, France (Invited speaker).

Projects

2023–2026 **Member of the WOMBAT (Variance-reduced Optimization Methods and Bayesian Approximation Techniques for scalable inference)**.

- Principal investigator:
  - Florence Forbes (Statify Inria Grenoble, France),
  - Hien Duy Nguyen (School of Computing, Engineering and Mathematical Sciences, La Trobe University, Bundoora, Victoria, Australia).
- Other participants:
  - Queensland University of Technology, Brisbane, Australia,
  - The University of Queensland, Brisbane, Australia,
  - Swinburne University of Technology, Melbourne, Australia
  - The University of Adelaide, Australia.
  - Université de Caen Normandie, France.
- Website: `https://team.inria.fr/statify/projects/WOMBAT/`

2019–2021 **Member of the LANDER (Latent Analysis, Adversarial Networks, and DimEnsionality Reduction)**.

- Principal investigator:
  - Florence Forbes (Mistis Inria Grenoble Rhone-Alpes, France),
  - Hien Duy Nguyen (School of Mathematics and Physics, The University of Queensland, Australia).
- Other participants:
  - Queensland University of Technology, Brisbane, Australia,
  - Swinburne University of Technology, Melbourne, Australia
  - Université de Caen Normandie, France.
- Website: `https://team.inria.fr/statify/projects/lander/`
- My contributions in this project: A non-asymptotic approach for model selection via penalization in high-dimensional mixture of experts models. Electronic Journal of Statistics, 2022.

Selected Academic Experiences

12/2022 **Accomplished an online course Machine Learning Specialization**, *Stanford University, USA*, instructed by Professor Andrew Ng et al..

Including 3 courses:

- Supervised Machine Learning: Regression and Classification. Grade: 100%.
- Advanced Learning Algorithms. Grade: 100%.
- Unsupervised Learning, Recommenders, Reinforcement Learning. Grade: 100%.

Course Certificates:
`https://coursera.org/share/a9473e1b59c38bbde2f413bed53f3ebf`

07/2019 **Participated in 3rd International Summer School on Deep Learning (39 hours)**, *Warsaw, Poland*.

Including some featured courses:

- *Deep Generative Models* by Aaron Courville (University of Montréal, Canada).
- *Dive into Deep Learning* by Alex Smola (Amazon, USA).
- *Mathematics of Deep Learning* by Rene Vidal (Johns Hopkins University, USA).

06-09/2018 **Accomplished an online course Deep Learning Specialization**, *Stanford University, USA*, instructed by Professor Andrew Ng et al..

Including 5 courses:

- Neural Networks and Deep Learning. Grade: 100%.
- Improving Deep Neural Networks: Hyperparameter tuning, Regularization and Optimization. Grade: 100%.
- Structuring Machine Learning Projects. Grade: 98.3%.
- Convolutional Neural Networks. Grade: 98.9%.
- Sequence Models. Grade: 100%.

Course Certificates:
`https://coursera.org/share/3d5d2ffa4a112d75883b62a22d4a132c`

Languages

Vietnamese **Mother tongue**

English	**IELTS 7.0/9.0 (2017)**	*Excellent reading and listening skills, good at writing and speaking.*
French	**Intermediate B2**	*Good reading and writing skills, can understand isolated sentences and common phrases in listening and speaking.*

Computer Skills

Programming Languages	Advanced R, Advanced Python (Pytorch, Sci-kit Learn, Numpy, Matplotlib), MATLAB, C++, Julia, SAS.
Operating Systems	Linux, macOS, Microsoft Windows.
Softwares	LaTeX, Microsoft Offices.

Referees

Hien Duy Nguyen
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Julyan Arbel
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Le Thi Hoai An
Full Professor of Exceptional Class
Director of Computer science and Applications Department
University of Lorraine, France
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