

VU-LINH NGUYEN

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RESEARCH FIELDS

- Uncertainty quantification, Probabilistic machine learning
- Supervised, unsupervised and semi-supervised learning
- Learning from imperfect data, Learning from mixed data
- Active learning, Ensemble learning

WORK EXPERIENCE

Université de Technologie de Compiègne, Compiègne, France Junior Professor (Chaire de professeur junior)	<i>Dec 2022 - Present</i>
Eindhoven University of Technology, Eindhoven, The Netherlands Postdoctoral Researcher	<i>Feb 2021 - Dec 2022</i>
Paderborn University, Paderborn, Germany Postdoctoral Researcher	<i>Nov 2018 - Nov 2020</i>

CAREER BREAK

Parental Leave	<i>Sep 2020 - Feb 2021</i>
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EDUCATION

University of Technology of Compiègne, Compiègne, France Ph.D. in Computer Science <i>Ph.D. Thesis:</i> Imprecision in Machine Learning Problems Available online <i>Advisor:</i> Dr. Sébastien Destercke and Prof. Marie-Hélène Masson <i>Dissertation Committee:</i> Prof. Thierry Denoeux (Chair), Prof. Eyke Hüllermeier (Examiner), Prof. Cassio Polpo de Campos (Reviewer), Prof. Inés Couso (Reviewer)	<i>Oct 2015 - Sep 2018</i>
Japan Advanced Institute of Science and Technology, Ishikawa, Japan M.S. in Knowledge Science <i>M.S. Thesis:</i> Study on Tensor Calculus and CP-decomposition Available online <i>Advisor:</i> Prof. Tu-Bao Ho <i>Dissertation Committee:</i> Prof. Hieu-Chi Dam, Prof. Van-Nam Huynh, Prof. Fujinami Tsutomu	<i>Apr 2013 - Mar 2015</i>
VNU University of Science, Hanoi, Vietnam B.S. in Mathematics <i>B.S. Thesis:</i> Applied Copula in Financial Risk Measurement <i>Advisor:</i> Prof. Trong-Nguyen Tran	<i>Aug 2008 - Mar 2013</i>

HONORS AND AWARDS

ISIPTA Young Researcher Award: Honorable Mention ISIPTA 2019, Ghent, Belgium	<i>2019</i>
Third Grade/Prize in Algebra National Mathematics Olympics Contest for University Students, Hue, Vietnam	<i>2010</i>

ACHIEVEMENTS AND CERTIFICATES

Shortlisted for a WASP Assistant Professor position: Lund University, Sweden *2022*
Topic: Mathematical Statistics with specialization in Foundations of Scientific Machine Learning
Description & Note: A six year tenure track position with funding to recruit 2 two-year postdoc positions and 1 Ph.D. student, funded by the WASP program. I withdrew my application after accepting the job offer from the UTC.

Preselection (Admis à poursuivre): CNRS competition *2022*

Coursera Course Certificates

Fundamentals of Digital Image and Video Processing (2017), Machine Learning (2016)

PROFESSIONAL SERVICES

Member of the Program Committee:

- **Highly selective conferences:** AAAI (2021, 2023), AISTATS (2021-2022), UAI (2021)
- **Other conferences:** ISIPTA (2023), IUKM (2023)

Member of the Organisation Committee: SMPS/BELIEF (2018), WUML & WPMSIIP (2017)

Reviewer: International Journal of Approximate Reasoning (2023), Pattern Recognition (2023)

TEACHING EXPERIENCE

Master's degree programs (3)

- **Eindhoven University of Technology, Eindhoven, The Netherlands** *2022*
Lecturer in Uncertainty Representation and Reasoning. I participated in designing and delivering this course.
- **Eindhoven University of Technology, Eindhoven, The Netherlands** *2022*
Co-Lecturer (group supervisor) in Data Intelligence Challenge. I supervised 10 groups of MSc students and graded reports and presentations of 10 other groups.
- **Eindhoven University of Technology, Eindhoven, The Netherlands** *2021*
Teaching Assistant in Foundations of Artificial Intelligence. I participated in the discussion for the design of the course and took a supporting role during the course, reviewing and grading reports and software/code, attending all lectures and proposing exercises related to the lectures.

SUPERVISION

PhD Students (1)

- **Thu-Ha Do** (co-supervised with **Yves Grandvalet**): Probabilistic Graphical Models for Complex Learning Tasks, 2023–2026.

Master Thesis Students (2)

- **Yang Yang** (graduated with Cum Laude, co-supervised with **Cassio de Campos**): Learning Multi-Dimensional Bayesian Network Classifiers, Eindhoven University of Technology, Eindhoven, The Netherlands, 2022.
- **Rashad Ghassani** (co-supervised with **Sébastien Destercke** and **Marie-Hélène Masson**): Statistical Methods for the Analysis of Uncertain and Imprecise Data, University of Technology of Compiègne, Compiègne, France, 2017.

VISITING POSITIONS

PUBLICATIONS (17+1=18)

The following list contains 17 peer-reviewed publications: 4 journal articles, 5 highly selective conference papers, 7 conference papers, and 1 parts in books or collections. *Journal of Artificial Intelligence Research and Machine Learning* have been considered as prestigious journals in *Artificial Intelligence and Machine Learning*. Highly selective conferences are of the same level as (good) journals. 1 preprint is also listed.

Journal articles (4)

- J4. **Nguyen, V.L.**, Shaker, M.H., and Hüllermeier, E. (2022). How to Measure Uncertainty in Uncertainty Sampling for Active Learning. *Machine Learning*, vol. 111(1), pp. 89-122, Springer. [Paper](#)
- J3. **Nguyen, V.L.**, and Hüllermeier, E. (2021). Multilabel Classification with Partial Abstention: Bayes-Optimal Prediction under Label Independence. *Journal of Artificial Intelligence Research*, vol. 72, pp. 613-665. AAAI Press. [Paper](#)
- J2. **Nguyen, V.L.**, Destercke, S., Masson, M.H., and Ghassani, R. (2021). Racing Trees to Query Partial Data. *Soft Computing*, vol. 25(14), pp. 9285-9305, Springer. [Paper Preprint](#)
- J1. **Nguyen, V.L.**, Destercke, S., and Masson, M.H. (2018). Partial Data Querying Through Racing Algorithms. *International Journal of Approximate Reasoning*, vol. 964, pp. 36-55, Elsevier. [Paper Preprint](#)

Highly-selective-conference papers (5)

- SC5. **Nguyen, V.L.**, Yang, Y., and de Campos, C. P. (2023). Probabilistic Multi-Dimensional Classification. In *Proceedings of the 39th Conference on Uncertainty in Artificial Intelligence (UAI)*, pp. 1-12, Proceedings of Machine Learning Research, PMLR. [Paper Preprint](#)
- SC4. Rapp, M., Mencía, E.L., Fürnkranz, J., **Nguyen, V.L.**, and Hüllermeier, E. (2020). Learning Gradient Boosted Multi-label Classification Rules. In *Proceedings of the European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML-PKDD)*, pp. 533-547, Lecture Notes in Artificial Intelligence, Springer. [Paper Preprint](#)
- SC3. **Nguyen, V.L.**, and Hüllermeier, E. (2020). Reliable Multilabel Classification: Prediction with Partial Abstention. In *Proceedings of the 34th AAAI Conference on Artificial Intelligence (AAAI)*, pp. 5264-5271, AAAI Press. [Paper Preprint](#)
- SC2. **Nguyen, V.L.**, Destercke, S., Masson, M.H., and Hüllermeier, E. (2018). Reliable Multi-class Classification based on Pairwise Epistemic and Aleatoric Uncertainty. In *Proceedings of the Twenty-seventh International Joint Conference on Artificial Intelligence (IJCAI)*, pp. 5089-5095, IJCAI Press. [Paper Preprint](#)
- SC1. **Nguyen, V.L.**, Destercke, S., and Masson, M.H. (2017). Querying Partially Labelled Data to Improve a K-nn Classifier. In *Proceedings of the 31st AAAI Conference on Artificial Intelligence (AAAI)*, pp. 2401-2407, AAAI Press. [Paper Preprint](#)

Conference papers (7)

- C7. **Nguyen, V.L.**, Hoang, X.T., and Huynh, V.N. (2023). Inference Problem in Probabilistic Multi-Label Classification. *Proceedings of the 10th International Symposium on Integrated Uncertainty in Knowledge Modelling and Decision Making (IUKM)*, pp. 1-12, Lecture Notes in Artificial Intelligence, Springer.
- C6. **Nguyen, V.L.**, Zhang, H. and Destercke, S. (2023). Learning Sets of Probabilities Through Ensemble Methods. In *Proceedings of the 17th European Conference on Symbolic and Quantitative Approaches to Reasoning with Uncertainty (ECSQARU)*, pp. 1-14, Lecture Notes in Artificial Intelligence, Springer.

- C5. Hüllermeier, E., Fürnkranz, J., Mencía, E.L., **Nguyen, V.L.**, and Rapp, M. (2020). Rule-based Multi-label Classification: Challenges and Opportunities. In *Proceedings of the 4th International Joint Conference on Rules and Reasoning (RuleML+RR)*, pp. 3-19, Lecture Notes in Computer Science, Springer. [Paper Preprint](#)
- C4. **Nguyen, V.L.**, Hüllermeier, E. and Rapp, M., Mencía, E.L., and Fürnkranz, J. (2020). On Aggregation in Ensembles of Multilabel Classifiers. In *Proceedings of the 23rd International Conference on Discovery Science (DS)*, pp. 533-547, Lecture Notes in Artificial Intelligence, Springer. [Paper Preprint](#)
- C3. **Nguyen, V.L.**, Destercke, S., and Hüllermeier, E. (2019). Epistemic Uncertainty Sampling. In *Proceedings of the 22nd International Conference on Discovery Science (DS)*, pp. 72-86, Lecture Notes in Artificial Intelligence, Springer. [Paper Preprint](#)
- C2. **Nguyen, V.L.**, Destercke, S., and Masson, M.H. (2017). K-Nearest Neighbour Classification for Interval-Valued Data. In *Proceedings of the 11th International Conference on Scalable Uncertainty Management (SUM)*, pp. 93-106, Lecture Notes in Artificial Intelligence, Springer. [Paper Preprint](#)
- C1. **Nguyen, V.L.**, Destercke, S., and Masson, M.H. (2016). Partial Data Querying Through Racing Algorithms. In *Proceedings of the 5th International Symposium on Integrated Uncertainty in Knowledge Modelling and Decision Making (IUKM)*, pp. 163-174, Lecture Notes in Artificial Intelligence, Springer. [Paper Preprint](#)

Parts in books or collections (1)

- P1. **Nguyen, V.L.**, and Huynh, V.N. (2015) . Using Conditional Copula to Estimate Value-at-Risk in Vietnam's Foreign Exchange Market. In *Econometrics of Risk*, pp. 471-482, Studies in Computational Intelligence, Springer. [Paper Preprint](#)

Preprint (1)

- PR1. Carranza Alarcón, Y. C., and **Nguyen, V.L.** (2022) . Skeptical inferences in multi-label ranking with sets of probabilities. In *arXiv e-prints*, pp. 1-19. [Preprint](#)