

# Victor Dheur

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🔄 Vektor

## Research Experience

- 10/2021– **PhD student**, *Big Data and Machine Learning Lab, UMONS*  
Research on probabilistic models and uncertainty quantification in neural networks. Research topics include calibration, Bayesian learning, proper scoring rules, conformal prediction, and energy-based models.  
Director: S. Ben Taieb.
- 08/2020–11/2020 **Master's internship**, *Nokia Bell Labs*  
Implementation and evaluation of a signal translation model to extend the availability of deep learning solutions for detecting and diagnosing impairments on subscriber-ISP lines.
- 07/2019–08/2019 **Research Intern**, *Theoretical Computer Science Lab, UMONS*  
Research on solving parity games using binary decision diagrams, in the context of model checking.  
Director: V. Bruyère.

## Education

- 2019–2021 **Master's degree**, *UMONS, Computer Science*  
Summa Cum Laude
- 2016–2019 **Bachelor's degree**, *UMONS, Computer Science*  
Magna Cum Laude

## Projects

- Master's thesis **Uncertainty quantification in neural networks.**  
Study of state-of-the-art methods for uncertainty quantification in machine/deep learning. Experimental study with synthetic and real-world datasets according to different evaluation measures.  
Director: S. Ben Taieb.
- Master 1 project **Machine learning applied to routing in wireless sensor networks.**  
Use of reinforcement learning to optimize packet routing. Comparison of a distributed and a centralized approach.  
Directors: S. Ben Taieb, B. Quoitin.

## Talks

- 24/03/2023 **Diffusion Models**, *Machine Learning II Seminars*, UMONS, Mons, Belgium
- 23/03/2023 **How does Artificial Intelligence Really Work?**, *Journées Math-Sciences*, UMONS, Mons, Belgium
- 16/03/2023 **Deep Generative Models**, *Machine Learning II Seminars*, UMONS, Mons, Belgium

- 20/06/2022 **Conformalized Quantile Regression**, *Big Data and Machine Learning Reading Group*, UMONS, Mons, Belgium
- 30/03/2022 **Regularization methods for neural network calibration**, *InforTech Day*, UMONS, Mons, Belgium
- 19/01/2022 **Score Matching and Langevin Dynamics**, *Big Data and Machine Learning Reading Group*, UMONS, Mons, Belgium
- 13/12/2021 **Uncertainty Quantification in Machine Learning**, *Big Data and Machine Learning Reading Group*, UMONS, Mons, Belgium

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## Teaching

- 2022 **Teaching Assistant**, *UMONS*  
Directed the labs of the *compilation* course.
- 2022, 2021, 2020 **(Student) teaching Assistant**, *UMONS*  
Assistant for the labs of the *computer architecture* course.
- 08/2018 **Student Tutor**, *UMONS*  
Computer science student tutor, helping second year students who failed exams.

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## Miscellaneous

- 2020–2022 **Google Hashcode**: **114<sup>th</sup>** (out of 9000+) in 2022, **193<sup>rd</sup>** (out of 9000+) in 2021, **283<sup>rd</sup>** (out of 10000+) in 2020.
- 2018–2020 **Benelux Algorithm Programming Contest (BAPC)**: **2<sup>nd</sup>** (out of 77) in 2020, **8<sup>th</sup>** (out of 55) in 2019, **6<sup>th</sup>** (out of 44) in 2018.
- 11/2020, 03/2019 **Battle Dev**: **35<sup>th</sup>** (out of 4500+) in November 2020, **20<sup>th</sup>** (out of 4000+) in Mars 2019.

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## Languages

- French Native Proficiency
- English Professional Working Proficiency
- Dutch Elementary Proficiency