Baptiste Debes

LinkedIn Google Scholar



Profile

My research focuses on value-gradient methods in reinforcement learning: using learned environment models to provide richer training signals than scalar rewards or value targets alone. More broadly, I am interested in decoupled training of neural networks, with the goal of reducing the memory footprint of learning and making training less dependent on end-to-end backpropagation.

Education

2019 – 2022 **Master of Engineering**, Data Science and Engineering
University of Liège
Magna Cum Laude. Thesis: The Lottery Ticket Hypothesis and Value-Based Deep Reinforcement Learning.
Thesis: The Lottery Ticket Hypothesis and Value-Based Deep Reinforcement Learning.

2020 – 2021 **Exchange semester**, Electrical and Electronic Engineering
EPFL, Lausanne, Switzerland
Master's exchange semester.

2016 – 2019 **Bachelor of Computer Science and Electrical Engineering**
University of Liège

Research Experience

2022 – present **Ph.D. student**, PSI, KU Leuven, Leuven, Belgium
Supervised by Prof. Tinne Tuytelaars.

Research Publications

1. **B. Debes** and T. Tuytelaars, "Distributional value gradients for stochastic environments," in *International Conference on Learning Representations*, 2026. DOI: 10.48550/arXiv.2601.20071.
2. **B. Debes** and T. Tuytelaars, "Multivariate distributional reinforcement learning using sliced divergences," in *International Conference on Machine Learning*, 2026. DOI: 10.48550/arXiv.2605.31222.

Awards and Achievements

2022 **TOYOTA MOTOR EUROPE Award**, University of Liège
Award for Master's thesis.

Academic Service

2026 **Reviewer**, NeurIPS (Top Reviewer)