Maxence Hussonnois

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https://github.com/HussonnoisMaxence

Education

A^2I^2, Deakin University — **Geelong, Australia**
PhD Reinforcement Learning — *April 2022 - present*

- Advisor: Dr. Thommen George Karimpanal and Dr. Santu Rana
- Thesis title: Human Feedback in Skill Discovery: Toward Learning a Diverse Set of Desirable Skills in Reinforcement Learning

Ecole Centrale d'Electronique — **Paris, France**
Master's degree in Engineering — *Sept 2018 – Aug 2021*

- Courses : Deep Learning, Robotics, Reinforcement Learning.

Lycée Chaptal — **Paris, France**
Classe Préparatoire au Grandes Ecoles — *Sept 2016 – Aug 2018*

- Two-year undergraduate intensive course in mathematics and physics to prepare for nationwide competitive examination.

Work Experience

Naver Labs Europe — **Grenoble, France**
Research Intern — *Feb 2021 -Aug 2021*

- Conducted research on Reinforcement Learning for Document Layout Analysis.
- Formulated the problem of understanding document layout structures using reinforcement learning and sequential decision-making optimization methods.
- Proposed the first of its kind Reinforcement Learning approach for document layout analysis.

Ecole Centrale d'Electronique — **Paris, France**
Research Intern — *April 2020 – Sept 2020*

- Conducted research on autonomous driving using Reinforcement Learning.
- Developed an end-to-end autonomous driving system employing state-of-the-art deep reinforcement learning algorithms in a 3D simulated environment. driving in 3D simulation.

Publications

- **Maxence Hussonnois** ,Thommen George Karimpanal, and Santu Rana. *Human-Aligned Skill Discovery: Balancing Behaviour Exploration and Alignment*, AAMAS, 2025.
- **Maxence Hussonnois** ,Thommen George Karimpanal, and Santu Rana. *Controlled Diversity with Preference : Towards Learning a Diverse Set of Desired Skills*, AAMAS, 2023 (**nominated as candidate for AAMAS best student paper award**).
- **Maxence Hussonnois**. *A Toolkit for Encouraging Safe Diversity in Skill Discovery*, AAMAS, 2023.
- **Maxence Hussonnois** , Jae-Yun Jun. *End-to-end autonomous driving using the Ape-X algorithm in Carla simulation environment*, ICUFN, 2022.

Other Academic Activities

- Presented "Controlled Diversity with Preference: Towards Learning a Diverse Set of Desired Skills" at AAMAS 2023 in the session "Learning with Humans and Robots."
- Participated in the AAMAS 2023 Doctoral Consortium with an elevation pitch and poster presentation.
- Attended AAMAS 2023 tutorial: "Putting Humans in Humans and AI: How to Incorporate Real People in Human-Agent Interaction."

Projects

Implementation of Reinforcement Learning algorithms *Feb 2020 – Feb 2021*

- Implementation of : DQN, D2QN, D3QN, PER, APE-X with Python and Pytorch

Skills

- Programming Languages:: Python, C, C++.
- Programming tools: ROS, Gazebo, Docker, Gym, Git.
- Machine learning libraries: Pytorch, Numpy, Pytorch-geometric, Tensorflows.
- English : TOEIC(965), TOEFL(98/120)

Extra-curricular

- Running, Melbourne's Half-Marathon(2022), Paris's Marathon (2021), Paris's Half-Marathon (2021), 20km of Paris (2017, 2018, 2019)

Referees

- Thommen G. K., Deakin University, Australia, Research Lecturer, thommen.karimpanalgeorge@deakin.edu.au
- Santu Rana, Deakin University, Australia, Head AI and Robotics, santu.rana@deakin.edu.au
- Hervé Déjean, Naver Labs Europe, France, Research Scientist, herve.dejean@naverlabs.com
- Jae-Yun Jun, ECE, France, Associate Professor, jae-yun.jun-kim@ece.fr