







# Etienne Tack, PhD Student

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## Work Experience


- 09/2021 – 08/2024  **PhD Computer Science Student**, INSIGHT company, Institute of Pure and Applied Sciences (ISEA), University of New Caledonia (UNC).  
Subject : *Development of Hybrid Multi-Agent Systems Guided by Data Science, and Environmental Applications*.  
Supervised by Frédéric Flouvat (LIS—Computer Science and Systems Laboratory, AMU—Aix-Marseille University) and Jean-Marie Fotsing (ISEA, UNC) and directed by Gilles Énée (ISEA, UNC) under a Cifre contract (a French government funding that helps companies to collaborate with an academic research laboratory through a doctorate).
- 05/2021 – 09/2021  **Data Analyst Internship**, South Pacific Community (SPC), New Caledonia.  
The main task was to build data visualisations with Power BI for open datasets. And secondly, make monitoring dashboards to follow the health and status of SPC services.
- 03/2020 – 10/2021  **Research Internship in Computer Science** (M2 level), ISEA, UNC.
  - Subject: Study of the socio-spatial dynamics of informal settlements: an approach based on a multi-agent model.
  - Supervised by Frédéric Flouvat (ISEA), Gilles Énée (ISEA), Thomas Gaillard (Ecosophy), and Nazha Selmaoui-Folcher (ISEA).

## Academic Background

- 2021 – . . . . .  **PhD in Computer Science**, University of New Caledonia.
- 2018 – 2020  **Master's Degree in Computer Science, DOP Track\***, University of Caen Normandy.  
*\*Decision and Optimisation*
- 2014 – 2018  **Bachelor's Degree in Computer Science**, University of Caen Normandy.

## Publications

### Conference Proceedings

- 1 **Etienne Tack**, Gilles Énée, Thomas Gaillard, Jean-Marie Fotsing, and Frédéric Flouvat. “Towards User-Centred Validation and Calibration of Agent-Based Models”. In: *Proceedings of the 15th International Conference on Agents and Artificial Intelligence*. SCITEPRESS - Science and Technology Publications, 2023.  
 DOI: 10.5220/0011750000003393.

## Projects

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2018 – 2019

📌 **Resolution of Repeated Hedonic Games**, Annual Project (M1 level).

Supervised by Grégory Bonnet (MAD Team, GREYC, University of Caen)

- Creation of a simulator that runs several hedonic games\* to observe how the formation of agent coalitions evolves.
- Implemented Eigen Thrust to aggregate the local preferences of agents and obtain a global ranking.

Hedonic Game\*: game that models the formation of groups of agents when they have preferences regarding the group to which they belong.

🔗 <https://github.com/etiennetack/hedonics-games-simulator>

## Skills

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Languages

📌 French (Native),  
English (Professional working proficiency),  
German (Elementary proficiency).

Coding

📌 Python, C++, Java, Web development (JavaScript, HTML, CSS),  $\LaTeX$ .

Database Management Systems

📌 PostgreSQL, MySQL, Geographical Information System (e.g., QGIS).

Operating Systems

📌 Linux (Debian-based and Arch-based distributions), Bash, Docker.