

# Thomas Gaviard

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## EDUCATION

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### University of Lille

Lille, France

*MSc in Data Science, Research Track*

*Sep 2022 – Apr 2024*

- Relevant coursework: Linear Algebra, Probability, Statistics, Convex Optimization, Signal Processing, High Performance Computing, Machine Learning, Deep Learning, NLP, Computer Vision, Reinforcement Learning, Databases, Bayesian Learning
- All courses are taught in english ; 6 month research project

### Centrale Lille

Lille, France

*MEng in General Engineering*

*Sep 2019 – Aug 2022*

- Relevant coursework: Math, Physics, Computer Science, Project Management
- Gap year followed by a double degree in the Master of Data Science at the Univeristy of Lille

### Lycée Louis-Le-Grand

Paris, France

*Preparatory classes, Mathematics, Physics and Chemistry*

*Sep 2016 – Jul 2019*

## RESEARCH EXPERIENCE

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### IMT Lille-Douai, Murdoch Univeristy

Lille, France

*Second year research project, Computer Vision*

*Oct 2023 – Mar 2024*

- “Multi-scale novel view synthesis of bounded scenes”, supervised by Hamid Laga and Hazem Wannous.
- Study of neural radiance fields (NeRFs) methods and adaptation to the subject constraints.

### INRIA - RAPSODI team

Lille, France

*First year research project, Optimization and Numerical Analysis*

*Oct 2022 – Apr 2023*

- “Numerical study of dynamical models of interacting Voronoi cells and their continuous limits”, supervised by Claire Chainais and Andrea Natale.
- Spatial decomposition of the domain and resolution of an ODE whose potential energy is in itself a convexe optimization problem.

### INRIA - MAGNET team

Lille, France

*Internship, Machine Learning*

*Mar 2022 – Aug 2022*

- “Fairness in Federated Learning”, supervised by Michael Perrot.
- Produced an in-depth taxonomy of the existing federated and fair algorithms.
- Proposed and implemented a novel approach based on a weighting gradients scheme.

## WORK EXPERIENCE

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### Stereolabs

Paris, France

*Internship, Deep Learning Engineer*

*Apr 2023 – Aug 2023*

- Studied neural stereo matching at different levels (architecture, optimization, data).
- Contributed to their technology watch, read more than 30 papers.
- Improved the overall performance based on empirical results and knowledges.

### Euratechnologies

Lille, France

*Internship, Data Scientist*

*Sep 2021 – Feb 2022*

- **Project 1:** Bots detection in a MMO video game (Event2Vec and Attention-based LSTM).
- **Project 2:** Detection of defects on railway rails (YOLO architecture).
- **Project 3:** Multivariate and multi-steps sales forecasting (LSTM).

### Helean

Paris, France

*Internship, Data Scientist*

*Jul 2021 – Aug 2021*

- Improved their forecasting model using features engineering and enriched their data with web scraping.

SKILLS

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**Programming:** Python, SQL, R, L<sup>A</sup>T<sub>E</sub>X, MPI, CUDA kernels  
**Languages:** French (Native), English (Professional), Spanish (Intermediate)

HOBBIES

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Rugby (15y), Running (MAS 18km/h), Music (cello, electronic), Games