

VALÉRIAN MANGÉ

PhD student in signal processing, specialized in data fusion and anomaly detection

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Valérian Mangé



PROFESSIONAL EXPERIENCE

Thesis in Signal Processing

TéSA

Oct 2022 - Dec 2025

Toulouse, France

- Combining AIS/radar/ESM data for maritime surveillance
- Detect abnormal ship trajectories from historical datasets
- Thesis for Hensoldt Nexeya France supervised by the TéSA laboratory and co-financed by the French Defense Agency (DGA)

Internship Big Data / Data Analyst

Valeo

April 2022 - Sept 2022

Créteil, France

- Analysis of the integration chain with Big Data processing
- Study of the contribution of AI in this analysis

EDUCATION

PhD in signal processing

TéSA

Oct 2022 - Dec 2025

Toulouse, France

FUSCHIA (Fusion and correlation of heterogeneous data with artificial intelligence)

Computational Science and Engineering (Exchange)

École Polytechnique Fédérale de Lausanne (EPFL)

Sept 2021 - Feb 2022

Lausanne, Switzerland

Courses on machine learning, data analysis, computational methods applied to quantum physics, software engineering, and image processing

Master's Degree in Computer Science

ENSEEIH

Sept 2019 - Sept 2022

Toulouse, France

Engineering school in computer science with specialization in applied mathematics, high performance computing and Big Data

Middle School

Quality School International (QSI)

Sept 2008 - July 2012

Shenzhen, China

International American school, member of the QSI network

SKILLS

Soft

Teaching

Cultural intelligence

Assertiveness

Thinking outside the box

Prioritization and ranking

Hard

Python

Matlab

Machine learning

Data fusion

Anomaly detection

Statistics

Time series analysis

LANGUAGES

French



English



Spanish



TEACHING

Computer science courses

ENSEEIH

2022 - 2025

Toulouse, France

- Statistics 16h, exercise sessions
- Data analysis 21h, practical sessions
- Optimization 5h, tutoring

REFERENCES

Prof. Jean-Yves Tournet

Thesis director

@ ENSEEIH

jean-yves.tournet@toulouse-inp.fr

Prof. François Vincent

Thesis co-director

@ ISAE-SUPAERO

francois.vincent@isae-supero.fr

PUBLICATIONS

Patents

- V. Mangé, J.-Y. Tourneret, F. Vincent, and F. Manzoni Vieira, “**Procédé d’association de données de trajectoires issues de capteurs,**” 2025 (Pending).
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Journal Articles

- V. Mangé, J.-Y. Tourneret, F. Vincent, L. Mirambell, and F. Manzoni Vieira, “**Anomaly Detection in Ship Trajectories Using Machine Learning and Dynamic Time Warping,**” *Engineering Applications of Artificial Intelligence*, vol. 157, p. 111 185, 2025.
 - C. Balsa, M. Silveira, V. Mangé, and P. A. G. Piloto, “**Modelling the Thermal Effects on Structural Components of Composite Slabs under Fire Conditions,**” *Computation*, vol. 10, no. 6, 2022.
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Conference Proceedings

- V. Mangé, Y. Anezin, J.-Y. Tourneret, F. Vincent, L. Mirambell, and F. Manzoni Vieira, “**Detecting Abnormal Ship Trajectories using Functional Isolation Forests and Dynamic Time Warping,**” in *EU-SIPCO*, Lyon, France, 2024.
- V. Mangé, J.-Y. Tourneret, F. Vincent, L. Mirambell, and F. Manzoni Vieira, “**Track-to-Track AIS / Radar Association and Uncertainty Estimation by Coherent Point Drift,**” in *EUSIPCO*, Lyon, France, 2024.
- R. Mignot, V. Mangé, K. Usevich, M. Clausel, J.-Y. Tourneret, and F. Vincent, “**Anomaly Detection Using Multiscale Signatures,**” in *EUSIPCO*, Lyon, France, 2024.
- V. Mangé, J.-Y. Tourneret, F. Vincent, L. Mirambell, F. Manzoni Vieira, and B. Pilastre, “**Détection de comportements anormaux dans des trajectoires de navires avec One-Class SVM et Dynamic Time Warping,**” in *Colloque Gretsi*, Grenoble, France, 2023.