

KARIM TIT

French national, 29 years old, 📍 Campus Kirchberg, University of Luxembourg

Postdoctoral Researcher in Machine Learning

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WORK EXPERIENCE 🏢

University of Luxembourg

May 2024 - Ongoing

Postdoctoral Researcher, supervised by Dr. Maxime Cordy

Working on formal methods and statistical model-checking methods for Deep Learning certification.

Thales Land and Air Systems (LAS)

February 2021 - January 2024

ML Research Engineer, supervised by Dr. Louis-Marie Traonouez

Worked on the reliability of Deep Neural Networks for cybersecurity applications.

KeyQuant

May 2020 - September 2020

Quantitative research intern, supervised by Dr. Charles Chevalier

Enhanced and implemented [in Python] trend-following trading strategies with machine learning models.

CREST, CNRS

July 2019 - September 2019

Research intern, supervised by Dr. Anna Simoni

Implemented [in R] and analyzed a new estimator for inverse problems in high dimensional econometrics.

Capital Fund Management & École Polytechnique

March 2019 - July 2019

Quantitative research intern, supervised by Dr. Michael Benzaquen & Dr. Iacopo Mastromatteo

Developed a financial market microstructure model for the Chair Econophysics and Complex Systems

EDUCATION 🎓

INRIA & University of Rennes

February 2021- April 2024

Ph.D. in Computer Science, supervised by Dr. Teddy Furon & Dr. Mathias Rousset

Thesis subject : "Reliability of Deep Neural Networks with Rare Event Simulation Algorithms."

Paris-Saclay University

2019-2020

Masters in Mathematics of Randomness (M2), StatML track

highest distinction, GPA 4.0

Some relevant courses : Reinforcement Learning, Statistical Learning

ENSAE Paris, Polytechnic Institute Of Paris

2018-2020

Master of Engineering and Data Science (Diplôme d'ingénieur)

highest distinction, GPA 4.0

Some relevant courses : Deep Learning, Natural Language Processing, C++

Paris Sciences Et Lettres University

2018-2019

Research Masters in Pure and Applied Mathematics (M2)

highest distinction , GPA 4.0

Some relevant courses : Stochastic Calculus, Stochastic Control, Statistical Mechanics

Sorbonne University

2016-2018

M.Sc. in Mathematics 1st year (M1),

highest distinction, GPA 4.0

B.Sc. in Mathematics with minor in Physics (L3),

highest distinction, GPA 4.0

LANGUAGE & TECHNICAL SKILLS ✂

French	Mother tongue
English	C1 level (TOEFL : 104/120)
Programming languages	Python 🐍 (main), R, C++ (secondary)
Python libraries	Numpy, Pandas, PyTorch, TensorFlow, Scikit-learn
Operating systems	🐧, 🖥
Software tools	git, 🗑, L ^A T _E X

PUBLICATIONS 📖

KCLNet: Physics-Informed Power Flow Prediction via Constraints Projections

P. Dogoulis, K. Tit, M. Cordy - European Conference in Machine Learning (ECML), Aug 2025, Porto, Portugal.

TS-SCAN: a Density-Based Clustering Method for Trajectory Analysis and Anomaly Detection.

L. Monnier, LM. Traonouez, K. Tit - 2024 International Radar Conference (RADAR), 2024, Rennes, France.

Fast Neural Networks Reliability Estimation with Attack-Driven Importance Sampling.

K.T., T. Furon - 40th Conference on Uncertainty in Artificial Intelligence (UAI), Jul 2024, Barcelona, Spain.

Three Bricks to Consolidate Watermarks for Large Language Models.

P. Fernandez, A. Chaffin, K.T., V. Chappelier, T. Furon - IEEE 15th International Workshop on Information Forensics and Security (WIFS), Dec 2023, Nuremberg, Germany.

Gradient-Informed Neural Network Statistical Robustness Estimation.

K.T., T. Furon, M. Rousset- 26th International Conference on Artificial Intelligence and Statistics (AISTATS), Apr 2023, Valencia, Spain.

Efficient Statistical Assessment of Neural Network Corruption Robustness.

K.T., T. Furon, M. Rousset- 35th Conference on Neural Information Processing Systems (NeurIPS), Dec 2021, Sydney (virtual), Australia.

TEACHING 🗣

University of Luxembourg

September 2024- December 2025

Classes on Robust Machine Learning for Data Science & Cyber-Security master's students (20h).

Classes on Software Engineering for the Computer Science Bachelor students (6h).

École Polytechnique

October 2019- January 2020

Tutorials for undergrad students covering advanced statistics and measure theory (45h).

ACADEMIC AWARDS 🏆

Merit-based Scholarship for academic excellence in Mathematics, 'Sophie Germain'

2019-2020

Masters Scholarship awarded by the Fondation Mathématiques Jacques Hadamard (FMJH)

Merit-based Scholarship for academic excellence in Mathematics, 'PGSM'

2018-2019

Masters Scholarship awarded by the Paris Graduate School of Mathematics

NON-ACADEMIC INTERESTS 🎸

Music : Guitar & Piano

Sports : Calisthenics & Running

Travelling : Armenia-Belgium-England-Germany-Georgia-Morocco-Portugal-Tunisia-Turkey-Spain