





# KARIM TIT

French national, 27 years old, 📍 Inria Rennes, France.

**Ph.D. candidate in Machine Learning (ML), defense expected in April 2024.**

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## WORK EXPERIENCE 🏢

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### 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 cyber-security 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

### ScreenSeed

October 2018 - March 2019

*Part-time R&D project, supervised by Dr. Edwin Grappin (CTO)*

Computer vision research project (seeds growth prediction) using ML methods for a biotech startup.

## EDUCATION 🎓

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### INRIA & University of Rennes

February 2021- January 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 (ex Paris-XI)

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 (ex Paris-IX)

2018-2019

*Research Masters in Pure and Applied Mathematics (M2)*

*highest distinction , GPA 4.0*

*Some relevant courses : Stochastic Calculus, Stochastic Control*

### Sorbonne University (ex Paris-VI)

2016-2018

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

*highest distinction, GPA 4.0*

### Lycée Pierre Corneille

2014- 2016

*Preparatory classes for the french 'Grandes écoles', focus on Mathematics*

*with honours, Grade A*

## LANGUAGE & TECHNICAL SKILLS ✂

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French	Mother tongue
English	C1 level (TOEFL : 104/120)
German	B1 level
Programming languages	☞ (main), R, C++ (secondary)
Python libraries	Numpy, Pandas, PyTorch, TensorFlow, Scikit-learn
Operating systems	🐧, 🖥
Software tools	git, 🖱, L <sup>A</sup> T <sub>E</sub> X

## PUBLICATIONS 📖

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### Three Bricks to Consolidate Watermarks for Large Language Models. - WIFS 2023

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

### Gradient-Informed Neural Network Statistical Robustness Estimation. - AISTATS 2023

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. - NeurIPS 2021

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

### Évaluation statistique efficace de la robustesse de classifieurs. - CAID 2021 (In French)

K.T., T. Furon, M.Rousset, L.-M. Traonouez. - Conference on Artificial Intelligence for Defense, DGA, DGNUM, Ministère des Armées, Nov 2021, Rennes, France.

## TEACHING 🧑🏫

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### École Polytechnique

October 2019- January 2020

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

## ACADEMIC AWARDS 🏆

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Scholarship for academic excellence, 'Sophie Germain'

2019-2020

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

Scholarship for academic excellence, 'PGSM'

2018-2019

Masters Scholarship awarded by the Paris Graduate School of Mathematics

## NON-ACADEMIC INTERESTS 🎸

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Music : Guitar & Piano

Sports : Calisthenics & Running

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