

ALEXANDRE ARAUJO

☎ +33 6 74 75 22 75 • ✉ alexandre.araujo@inria.fr

EDUCATION

Université Paris-Dauphine – PSL Research University
Ph.D. in Computer Science (Thesis defended in June 2021)

Paris, France
2017 – 2021

RESEARCH EXPERIENCE

New York University
Postdoctoral Researcher

New York, US
2023 – Present

- Research on Trustworthy Machine Learning
- Advisors: Siddharth Garg, Farshad Khorrani

INRIA
Postdoctoral Researcher

Paris, France
2021 – 2022

- Research on Computer Vision – Focus Stacking from Handheld Raw Image Bursts
- Advisors: Jean Ponce, Julien Mairal

Université Paris-Dauphine & Wavestone
Ph.D. Candidate – CIFRE contract

Paris, France
2017 – 2021

- Subject: Building Compact and Robust Deep Neural Networks with Toeplitz Matrices
- Advisors: Jamal Atif, Yann Chevalere and Benjamin Negrevergne
- Dissertation committee: Jamal Atif, Yann Chevalere, Benjamin Negrevergne, Teddy Furon, Alain Rakotomamonjy, Krzysztof Choromanski, Elisa Fromont, Rémi Gribonval

PUBLICATIONS

* denotes first author contribution

A Unified Algebraic Perspective on Lipschitz Neural Networks

A. Araujo, A. Havens*, B. Delattre, A. Allauzen, B. Hu – ICLR – Spotlight (2023)*

A Dynamical System Perspective for Lipschitz Neural Networks

L. Meunier, B. Delattre*, A. Araujo*, A. Allauzen – ICML – ORAL (2022)*

Building Compact and Robust Deep Neural Networks with Toeplitz Matrices

A. Araujo – PhD Thesis (2021)

On Lipschitz Regularization of Convolutional Layers using Toeplitz Matrix Theory

A. Araujo, B. Negrevergne, Y. Chevalere, J. Atif – AAAI (2020)

Advocating for Multiple Defense Strategies against Adversarial Examples

A. Araujo, L. Meunier, R. Pinot, and B. Negrevergne – ECML – Workshop (2020)

Understanding and Training Deep Diagonal Circulant Neural Networks

A. Araujo, B. Negrevergne, Y. Chevalere, J. Atif – ECAI 2020 (2020)

Theoretical Evidence for Adversarial Robustness through Randomization

R. Pinot, L. Meunier, A. Araujo, H. Kashima, F. Yger, C. Gouy-Pailler, J. Atif – NeurIPS (2019)

Compact Deep Learning Models for Video Classification using Circulant Matrices

A. Araujo, B. Negrevergne, Y. Chevalere, J. Atif – ECCV – Workshops (2018)

TEACHING

Executive Master – Université Paris Dauphine – PSL <i>AI project & Machine Learning</i>	Paris, France <i>2020, 2021</i>
Master IASD – Université Paris Dauphine-PSL <i>Data Mining & Machine Learning</i>	Paris, France <i>2019</i>
Master ID – Université Paris Dauphine-PSL <i>Data Mining & Machine Learning</i>	Paris, France <i>2019</i>
Master Data Science – École Polytechnique <i>Data Science & Machine Learning</i>	Paris, France <i>2016, 2017, 2018, 2019, 2020</i>

INDUSTRY EXPERIENCE

Wavestone <i>Data Scientist</i>	Paris, France <i>2015 – 2017</i>
<ul style="list-style-type: none">○ Mortgage Broker – Gathered 5 years of historic data and applied Machine Learning algorithms to predict if the mortgage application will be accepted. Deployed the model into production.○ Energy Company – Gathered 3 years of historic data with Hadoop to construct a dataset with 1 billion lines. Applied Machine Learning algorithms to predict if the customer is willing to leave for the competitor (churn).○ Railway Company – Gathered 20 years of historic data for dataset creation. Applied Machine Learning algorithms to predict train breakdown.	
Amazon <i>Data Engineer Intern</i>	Luxembourg <i>dec. 2014 – may 2015</i>
<ul style="list-style-type: none">○ Coded SQL queries on Amazon Redshift that showcase transportation and financial statistics.○ Automated data pipelines to feed BI dashboards.	

SUPERVISED INTERNSHIPS

Blaise Delattre: Master student, Summer 2021 (Now Ph.D. student)
Alexandre Verine: Master student, Summer 2019 (Now Ph.D. student)

INVITED TALKS

NYU – CDS	<i>April 2022</i>
INRIA/ENS Paris	<i>July 2021</i>
ENS Lyon	<i>July 2021</i>
INSIS – French National Center for Scientific Research	<i>January 2021</i>
PFIA – French AI conference	<i>June 2019, 2020, 2021</i>
International Cybersecurity Forum	<i>January 2020</i>
Limits of AI – BPI Conference	<i>June 2019</i>

TECHNICAL SKILLS

Programming Languages : Python, C++, SQL
HPC Job Schedulers : Slurm, IBM Spectrum LSF