

Mattéo Eléouet

LOOKING FOR PhD POSITION

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EDUCATION

Data Science Tech Institute

Academic Results: 17.53 / 20.00

MASTER OF SCIENCE IN APPLIED MATHEMATICS — MACHINE LEARNING AND DATA SCIENCE

- COMPLETED AN ENGLISH-TAUGHT CURRICULUM WITH A STRONG FOCUS ON MACHINE LEARNING AND DATA SCIENCE, INCLUDING ADVANCED COURSES IN STATISTICAL & PROBABILITY THEORY, LINEAR ALGEBRA, AND CONVEX OPTIMIZATION.
- MATHEMATICAL FOUNDATIONS OF STATISTICAL LEARNING AND UNCERTAINTY, CAUSAL INFERENCE FOR EXPLAINABILITY.
- LEARN IN A VARIETY OF DOMAINS SUCH AS NATURAL LANGUAGE PROCESSING, COMPUTER VISION, PYTHON PROGRAMMING, R, TEXT MINING, AND DATA ANALYSIS.

Sophia Antipolis, France - 2022 – 2024

Epitech

Academic Results: 15.5 / 20.00

BACHELOR'S DEGREE IN COMPUTER SCIENCE

- GRADUATED AS MAJOR DE PROMOTION 1/16
- FOCUSED ON SOFTWARE ENGINEERING (C, C++, JAVA, JS FRAMEWORKS), DEVOPS (DOCKER, KUBERNETES), AND LOW-LEVEL COMPUTING (OPERATING SYSTEMS, COMPUTER ARCHITECTURE).
- LOW-LEVEL COMPUTING, INCLUDING IN-DEPTH STUDIES ON OPERATING SYSTEMS AND COMPUTER ARCHITECTURE, FOCUSING ON THE FUNDAMENTAL WORKINGS AND PRINCIPLES OF COMPUTERS.

Nice, France - 2021 – 2022

La Croix Rouge & ISEN

Academic Results: 16.38 / 20.00

PRE-ENGINEERING IN COMPUTER SCIENCE AND NETWORKING OPTION TO ENGINEERING SCHOOL (BTS SN-IR)

- 18.28 AVERAGE MATHEMATICS — 17.2 AVERAGE ENGLISH — 19.5/20 END OF THE YEAR PROJECT IN COMPUTER SCIENCE.

Brest, France - 2019 – 2021

EXPERIENCE

Thales Alenia Space

Cannes, France

RESEARCH ENGINEER APPRENTICE IN COMPUTER VISION

Sep. 2022 - Sep. 2024

- Image quality lab, Image restoration, Super-Resolution, Simulation optimisation.
- Attribution Analysis of image restoration of ConvNets and Visual Transformers. Conducted comprehensive research on image restoration techniques in deep learning with a focus on understanding and interpreting.
- Create special metrics and loss function for image quality
- Designed and implemented custom architectures with PyTorch, including GANs, Swin Transformers, Diffusion models and ConvNets. Employed advanced techniques such as knowledge distillation to optimize network efficiency and performance.
- Write scientific internal report

AzurIA at IRT Saint Exupéry

Sophia Antipolis, France

MACHINE LEARNING OPERATIONS APPRENTICE

Dec. 2021 - Sep. 2022

- Developed and implemented low-energy models for embedded systems, incorporating GitOps, documentation, testing, ONNX, and Docker on Nvidia Jetson platforms.
- Designed and demonstrated Deep Learning models using PyTorch, specifically tailored for embedded system applications.
- Collaborated with teams to develop custom CUDA kernels, enhancing computational efficiency and performance.

Thales

Brest, France

RESEARCH INTERN

June 2021 – Aug. 2021

- Studying algebraic topology for data preprocessing (barcode, mathematical landscape, persistent homology)
- Reading the state of the art for image processing

LANGUAGES

English : C1 certified — 180/180 Cambridge LinguaSkill

French : Native Speaker

CERTIFICATIONS

Stanford : Machine Learning with Matlab, Andrew Ng

Imperial College London : Mathematics for ML

Inria : Machine Learning with Scikit-Learn

Univ. Alberta : Reinforcement Learning, in progress 30%

SKILLS

Mathematics Numerical Optimization, Operations Research, Simulation on Mathematical Modelling, Probability & Statistics, Imaging, Signal Processing

Computer Science Python, C, C++, R, Matlab, Bash, PyTorch, TF, SQL, Docker, Git, LaTeX, Algorithmic, Linux

PERSONAL PROJECT

Introduction to Deep Learning (in french)

Github link

SELF-PUBLISHED EBOOK

WIP, Expected May 2024

- Writting a comprehensive guide exploring mathematics and underlying theories that form the bedrock of Deep Learning, ranging from perceptrons to transformer architectures, aimed at demystifying complex concepts for a broad audience.
- An educational toolkit that brings together a wide range of resources, including extensive downloadable content, detailed code snippets, comprehensive datasets and a case study repository, to enhance open learning.

Interpreting Neural Networks with Bayesian Method

Github link

DEEP LEARNING THEORY

2023

- Implemented a Bayesian approach to neural network classification on the MNIST dataset, introducing weight uncertainty for more nuanced prediction analysis.
- Based on the research paper « Weight Uncertainty in Neural Networks » by Blundell et al.

Exploring Deep Dream

Github link

COMPUTER VISION

2023

- Applied the DeepDream algorithm to create surreal images using VGG19, Vision Transformer (ViT), and InceptionV3 models.

REFERENCES

Jacques Blum : School mentor

Hanna Abi Akl : School mentor

Laurène Glandus : Training supervisor

Marjorie Bellezzi : Training supervisor