

# Nantomiaro RALIBERA | Curriculum Vitae

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## EDUCATION

### ECOLE CENTRALE DE LYON

2020 - 2024

#### Master of Engineering

General engineering including Advanced Math and Physics, Computer Science, Mechanics, System Control and management.  
Relevant Courses: Machine Learning, Image Processing, Math, Advanced Probability, Numerical Analysis

### PARIS-EST CRETEIL UNIVERSITY

2017 - 2020

#### Bachelor in Math and Bachelor in Physics

Selective classes designed to train the best students in order to give them a solid scientific base.  
Relevant Courses: Measure theory, Integration and Probability, Topology and differential calculus, Mechanics, Thermodynamics

## EXPERIENCE

### RESEARCH INTERNSHIP - ACCENTURE LABS

May 2022 - Oct 2022

#### Development of a de-identification guide framework for Data Privacy

Sophia Antipolis, France

- Update on regulations on data privacy around the world.
- State-of-the-art of de-identification techniques including pseudonymization, privacy models, synthetic data and differential privacy.
- Building, training and patenting a end-to-end de-identification guide framework.
- Development of a web-based demo.

### STUDENT RESEARCH PROJECT - INL/LIRIS LABS

Sept 2021 - April 2022

#### Artificial Intelligence for the diagnosis of integrated electronic circuits

Lyon, France

- Creation of a database from circuit simulation.
- Implementation and assessment of ML models to detect faults
- Use of clustering and a CNN hierarchical scheme

## SKILLS

### PROGRAMMING LANGUAGE

Python | Matlab | Javascript | HTML | CSS | Latex

### FRAMEWORKS & TOOLS

ReactJS | Flask | Git | Docker | Jupyter | Linux

### LIBRARIES

TensorFlow | Scikit-learn | Matplotlib | Pandas | numpy

### SOFT SKILLS

Critical thinking | Teamwork | Curiosity & research | Autonomy | Adaptability

### LANGUAGES

Advanced (C1): English | Bilingual: French | Native: Malagasy | Beginner: Spanish

## PROJECTS

### CAN YOU PREDICT THE TIDE ?

Jan - April 2022

#### Challenge Data by ENS

The goal of this project is to forecast the surge given a sea-level pressure of the last five days. Several solutions were explored during this project. The first one is the combination of a PCA and a linear regression. The second is a convLSTM using Tensorflow. The models were trained on a server equipped with Titan X graphics cards coupled with CUDA technology.

### MIT 6.S191: INTRODUCTION TO DEEP LEARNING (NON-ACCREDITED COURSE)

Sept 2021 - Dec 2021

#### Music Generation using RNN

This project aims to generate the sequence of a music using RNN.

#### Debiasing Facial Detection Systems

Through learning latent variables underlying face datasets, the facial detection model re-sample adaptatively the training data to mitigate bias. Original Paper is available [here](#).

### VOICE CONVERSION USING CYCLE GAN

Sept 2021 - Dec 2021

#### Personal Project

This project includes the creation of a database of non-parallel voices of two Malagasy-speaking people and the training of the model for domain swapping using cycleGAN. The original paper is available [here](#).

## EXTRACURRICULAR ACTIVITIES

### COMMUNICATION MANAGER

2020 - 2021

#### SolidariTerre Association

Lyon, France

- Sharing of information within the school
- Design of visual supports
- Management of relations with external partners

#### Amateur Photographer and Graphic Designer

- Passionate about photography and graphic design.
- Creation on the Adobe Creative Suite: Photoshop, Illustrator, InDesign and Lightroom