

# Mathis Chenuet

COMPUTER SCIENCE STUDENT · MACHINE LEARNING SPECIALISATION

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## Work Experience

### Uncharted Technologies

Paris, France

MACHINE LEARNING ENGINEER – PART TIME

Feb. – Jul. 2019

- Data retrieval and extraction: web crawling, SPARQL, python.
- Continuation of the projects started during my internship.

MACHINE LEARNING RESEARCHER – INTERNSHIP

Aug. 2018 – Feb. 2019

- Research on NLP sentiment and emotion detection using state-of-the-art approaches. Worked on ULMFiT, GPT and BERT, implementations on PyTorch.
- Conception and development of a web application to annotate and analyse predictions on news articles.
- Parsers for extracting news data from PDF.
- Studies on stochastic optimization, graph convolutional networks.

### Immersia

Paris, France

EMBEDDED AND ELECTRONIC DEV. (AUTO-ENTREPRENEUR)

Oct. – Dec. 2018

- Finalization of electronic systems for a new escape game room.
- Development on Arduino and Raspberry Pi, design of the management interface supporting remote control.

### Psycale Research

Compiègne, France

MACHINE LEARNING ENGINEER (AUTO-ENTREPRENEUR)

Jun. – Jul. 2018

- Prototyping and development of image anomaly detection systems for quality analysis on an industrial production line.
- Designed Convolutional Neural Networks using Keras, pre-processing & feature engineering on OpenCV.

## Education

### University of Technology of Compiègne

France

MS.SC.ENG. COMPUTER SCIENCE AND ENGINEERING

Sep. 2015 – exp. Jul. 2020

- GPA: 4.0/4
- Data analysis and data mining, stochastic modelling, optimization and operational research, distributed systems, formal calculus.
- Algorithms and data structures, processors, computer architecture, applied maths, DB conception, OOP.
- Clubs: DataVenture (board member) promotion of data science and ML among students, organisation of conferences and workshops. Fablab UTC, IT manager.
- Teaching assistant for a data science & ML summer school.

### National University of Singapore

Singapore

EXCHANGE SEMESTER

Aug. – Dec. 2019

- AI planning and decision making, reinforcement learning.
- Algorithmic mechanism design, game theory.
- Sublinear-time/space and streaming algorithms.
- Optimisation algorithms, stochastic local search, competitive programming.

## Projects

### Recommender Systems – Research Project

PyTorch, Numpy

HANDLING USER COMMUNITIES IN RECOMMENDER SYSTEMS

Feb. – Aug. 2019

- Study and implementation of state-of-the-art recommendation system models such as Funk SVD with implicit feedback, LLORMA, GLOMA, Neural Collaborative Filtering, Auto-encoders, etc.

### Processing of geolocated timeseries

Numpy, Scikit, ES

HANDLING GEOLOCATED DATA IN HIGH VOLUMETRY

Feb. – Jul. 2018

- Anomaly detection and modeling of trajectories (geolocated timeseries), kernel methods (RKHS: reproducing kernel Hilbert space), clustering, DTW, Markov chains, one-class SVM, KPCA.

### GANs and Style-Transfer – Research Project

PyTorch

GANs FOR STYLE-TRANSFER: FROM PHOTOS TO COMICS

Feb. – Aug. 2019

- Study of state-of-the-art models for style-transfer, notably Generative Adversarial Neural Networks (GAN, CycleGAN, WGAN), Contextual loss, Neural Algorithm of Artistic Style.
- Implementation and experiments for transfer to comic-style images.

### Data Visualisation

React, Sigma.js

HOW TO EXPLORE INTERACTIONS IN REAL-WORLD NETWORKS?

Feb. – Jul. 2018

- Visualizing the evolution through time of dynamic networks.
- Web application: scraping, graph layout, rendering.

## Competitions

2019

Best Coder! challenge, 2<sup>nd</sup> runner-up

Singapore

2018

Volvo x Hack sprint, Special Jury Prize

Sweden

Computer Vision tools for excavator maintenance

Hackathon UTC, 2<sup>nd</sup>, “Light Line” project

France

Google Hash Code, 4-person team

France

2017

ACM-ICPC, SWERC

France

CCC, Catalyst Coding Contest

France

2015, 2016, 2017

3× Prologia Finalist, national programming contest

France

## Skills

### Languages and Technologies

- PyTorch, Numpy, Keras, OpenCV, Python
- React, HTML/CSS/JS, SQL & PostgreSQL, Elasticsearch
- Rust, C, C++, C#/.NET, x86, Prolog, Bash, Scilab
- Git, Linux
- Unity, Blender, PTC Creo, Rhino 3D
- Arduino, Raspberry Pi

### Idioms

- French – native
- Spanish – notions
- Chinese – basics
- English – fluent, TOEIC Listening & Reading 990

### Activities

- Electric guitar
- Climbing