

## EDUCATION

### Illinois Institute of Technology – Chicago, IL, USA

(August 2022)

#### Master of Engineering in Aerospace Engineering – Machine Learning and Autonomous Systems

Relevant coursework : Machine & Deep Learning, Tensor Calculus, Autonomous Systems, Optimization, Data Analysis, Cybersecurity

### ISAE-ENSMA – Poitiers, France

(August 2022)

#### Diplôme d'Ingénieur (equivalent to Master's degree) in Aeronautical Engineering

Relevant coursework : Tensor Calculus, Signal Processing, Embedded Systems, Probabilities, Differential Calculus, Autonomous Systems, Data Managing, Computer Science (C++, Python, ADA)

## TECHNICAL SKILLS

**Languages:** Python, C#, C++, Javascript, HTML, SQL, Matlab, ADA

**Technologies:** Pytorch, Pandas, Numpy, Scipy, React JS, Linux, Protocol TCP/IP, Source Control(Git), Protocol BLE, Azure Storage & Active Directory

**Software:** Unity (Mixed Reality Toolkit), CAD (Catia V6, Fusion 360), Office (VBA), Adobe Premiere, MAMP

**Hardware:** Raspberry PI, HoloLens 2, Data Collection devices (Empatica E4, Pupil Core Device)

## EXPERIENCES

### Civil Engineering Laboratory – Illinois Institute of Technology

(January 2022 - September 2022)

#### Research in Machine and Deep Learning

- Built multiple Deep Learning models to assess user's cognitive abilities during problem solving tasks in an augmented reality environment.
- Realized a data collection on students (created an application for augmented reality environment, HoloLens 2), learned about data ethics.
- Built a data collection system for real time collection and inference.
- Published a research paper (ICCCBE 2022).

**Skills:** Deep Learning, Python, Unity (MRTK), C#, Python, Network, Embedded Systems, Research Methods.

### Student Committee – ISAE-ENSMA

(2020 - 2021)

#### Student life organization

- Organized events for 400 students.
- Managed Sponsors.
- Developed communication and entertaining tools for students during pandemic (Discord and Website)

**Skills:** Communication, Interpersonal skill, JavaScript, HTML, PHP.

## PROJECTS

### Rose flower & Pokemon Generator

- Web-Scrapped a dataset of rose flower.
- Trained Generative Adversarial Networks DC-GAN & W-GAN with multiple trainings to create roses and Pokemons in 64 and 256 pixels.
- Developed a Mini-Batch Discrimination Layer in Pytorch.

### Blood Volume Pulse with motion artefact treatment (work in progress)

- Build a network that predicts heart rate from a blood volume pulse signal contaminated by motion artefact using Fast Fourier Transform and a Convolutional Neural Network.
- Build a network that denoises the blood volume pulse signal contaminated by motion artefact using AR filter spectrum and a Deconvolutional Neural Network.

### Discord Google Map Location Bot

- Build a discord bot in JavaScript that allows users to link the name of a city with location of the city on google maps without using a link.

## INTERESTS & MISCELLANEOUS

**Languages Spoken:** Native French speaker, fluent in English with 1 year spent in the USA (ETS TOIEC score 945/990 – C2 CECRL), Spanish (B1 CECRL)

**Interests:** New technologies, Cybersecurity, OSINT, Geopolitics, Swimming, Music, Video Games, Travel (USA, Ireland, Germany...)