

# ARTHUR FINDELAIR

DUAL MASTER'S DEGREE STUDENT SPECIALIZED IN MACHINE LEARNING

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## EDUCATION

### ILLINOIS INSTITUTE OF TECHNOLOGY (IIT)

August 2021 (expected) | Chicago, IL, USA

#### MASTER OF SCIENCE IN ELECTRICAL ENGINEERING (Current GPA: 4.0)

Relevant coursework: Machine & Deep Learning, Computer Vision and Image Processing, OOP & Machine Learning.

### ISAE-ENSMA

August 2021 (expected) | Poitiers, France

#### DIPLÔME D'INGÉNIEUR IN AERONAUTICAL ENGINEERING

Equivalent to **MASTER OF SCIENCE** | Specialized in avionics software and embedded systems.

### LYCEE KLEBER | CLASSES PREPARATOIRES AUX GRANDES ECOLES (CPGE)

June 2018 | Strasbourg, France

Intensive course in mathematics and physics in preparation for competitive entrance examinations to French engineering schools.

## PROFESSIONAL EXPERIENCES

### INTELLIGENT ROBOTICS LAB, UNIVERSITY OF BIRMINGHAM

June - August 2020 | Birmingham, UK

#### MACHINE LEARNING RESEARCH INTERN

- Deployed a simulated environment to efficiently enhance the common-sense reasoning system of a waiter assistant robot.
- Built a hand signs classification application to ease labeled images dataset creation and neural networks experiments.
- Developed a neural network on a self-made dataset to enforce human-robot communication through hand signs.

### ENSMASTEEL, FRENCH ROBOTIC CUP

July 2019 - September 2020 | France

#### TEAM LEADER

- Managed an 8-persons team and a 2,000€ budget to create an autonomous robot competing in the French Robotic Cup.
- Oversaw parallel evolutions of mechanical, electrical, and software sub-teams to ensure a smooth system integration.
- Implemented a robust finite-state robotic framework in C++ to guarantee precise navigation and multiple actuators control.

## SELECTED PROJECTS

### THISNIGHTSKYDOESNOTEXIST.COM

- Trained and fine-tuned a StyleGAN2 model on Google Colab using 4500 images scraped from Instagram.
- Deployed a website built on top of a 5000 generated images database using Firebase to showcase GANs' potential.

### AN INTER-LOCATING NETWORK (TOP 10 OUT OF 250 TEAMS ON THE BLACK-OUT CHALLENGE BY SAFRAN)

- Designed and pitched an alternative to GNSS through dead-reckoning, BLE beacons, and an inter-locating network of users.
- Engineered a locating module through inertial measurements and real-time vehicle data achieving less than a 2% drift error.

### NEURAL-NETWORK LIBRARY ACCELERATOR

- Programmed a Python package integrating an optimized C++ back-end library to fasten CNN inference execution time.

## SKILLS

**Industry Knowledge:** Machine Learning (DNN, CNN, GAN ...) • Computer Vision • Signal Processing • Microcontrollers • FPGAs

**Programming Languages:** Python (TensorFlow, Numpy, Pandas, PyTest, Scikit-Learn, PyQt) • C++ • Java • Ada • SQL

**Tools:** Linux • Version Control (Git) • Cloud Computing (Google Colab) • Visual Studio Code • PlatformIO

**Soft Skills:** Bilingual Communicator (English, French) • Initiative • Focus • Adaptability • Creativity & Innovation

## ADDITIONAL EXPERIENCE

### ENSMA STUDENT COMMITTEE MEMBER

2019 - 2020 | Poitiers, France

Collaborated on a 28-persons team to organize multiple school events, including Freshmen's weekend with a 40,000€ budget.

### DRONE INSTRUCTOR

2019 - 2020 | Poitiers, France

Taught racing drone building process and flying fundamentals to half a dozen beginners.