Arthur Findelair

Machine Learning Engineer

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Education

Illinois Institute of Technology — *Chicago, IL, USA* *Expected August 2021*
Master of Science in Electrical Engineering (GPA: 4.0/4.0)
Relevant coursework: Machine and Deep Learning, OOP & ML in C++, Computer Vision, AI and Edge Computing.

ISAE-ENSMA — *Poitiers, France* *Expected August 2021*
Diplôme d'Ingénieur (Master's equivalent) in Aeronautical Engineering
Relevant coursework: Tensor Calculus, Embedded Systems, Signal Processing, Data Managing, Probabilities.

Technical Skills

Languages: Python (TensorFlow, OpenCV, Jupyter Notebook) • C++ • Java • JavaScript • SQL • Ada
Technologies: Linux (Ubuntu) • Source Control (Git) • PlatformIO • QT • Embedded systems • Real-time Computing

Experiences

Research Project — *ECASP Laboratory, Chicago, IL, USA* *April — August 2021*
- Built an autonomous drone supporting embedded ML applications by augmenting its flight controller with a Jetson Nano.
- Implemented a secured gesture-control system on a drone by developing a pose classification and facial recognition pipeline, including a TensorRT neural network trained on a custom-made dataset.

Machine Learning Research Intern — *Intelligent Robotics Lab, Birmingham, United Kingdom* *June — August 2020*
- Created and curated a 11200 instances data set to improve hand gesture classification with a TensorFlow neural network.
- Built an application in Python (QT) based on live video stream and real-time gesture estimation to ease labeled image capture.
- Deployed a simulated environment to efficiently develop and test the common-sense reasoning system of an assistant robot.

Team Lead — *Ensmasteel, French Robotic Cup* *June 2019 — Mai 2020*
- Coordinated efforts of 9 members across 3 sub-teams to develop an autonomous robot competing in the French Robotic Cup.
- Increased robot's motion speed by 150% and accuracy by 75% by developing a robotic framework in C++ exploiting an ARM-based custom hardware platform including multiple encoder sensors, a LiDAR, and various actuators.

Projects

ThisNightSkyDoesNotExist.com
- Trained and fine-tuned a StyleGAN2-ADA model on Google Colab by creating a 4500 images dataset from Instagram.
- Deployed a website exceeding 500 visitors every day using React and a Firebase database to showcase GAN models' potential.

Black-Out Challenge by Safran (Top 10 out of 250 teams)
- Collaborated on a team of 4 to design and pitch an alternative to GPS through an inter-locating network of cars and fixed beacons.
- Created a self-locating module reaching an error rate lesser than 1% through data-fusion of real-time vehicle signals and IMU.

Neural-Network Library Accelerator
- Accelerated frame-by-frame CNN inference process on CPU by more than 6 times compared to TensorFlow 2.0 by developing an optimized C++ back-end library wrapped in a simple Python interface package using ctypes.

Interests, Activities & Miscellaneous

- Student committee, ISAE-ENSMA — Organized events for more than 500 students in a 28-members team. *2019 — 2020*
- Drone instructor, Ensmaero — Taught drone building process and flying fundamentals to beginners. *2019 — 2020*
- Interests: Competitive FPS, Motorcycle, Photography, Technical writing (Towards Data Science contributor), Basketball.
- Native French speaker and fluent in English.