Edouard Castets

Machine and Deep Learning & Autonomous Systems Engineer

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EDUCATION

Illinois Institute of Technology – Chicago, IL, USA *(August 2022)*
Master of Engineering in Aerospace Engineering – Machine Learning and Autonomous Systems
(Double degree program)
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, React JS, HTML, SQL, Matlab, ADA, PHP, Java
Data Science: Pytorch, Computer Vision(OpenCV & Torch Vision), Cafee, Pyspark, Databricks, Tensorflow, Scikit-learn, Pandas, Numpy, Scipy, Deep Face Lab, Google Earth Engine API
Technologies: : Linux, Git, Github Actions, VSC, Pytest, Docker, Kubernetes, TCP/IP/, ssh, BLE
Software: Unity (MRTK), Google Earth Pro, CAO (CatiaV6, Fusion 360), Pack Office, MAMP
Hardware: Raspberry PI, HoloLens 2, Data Collection devices (Empatica E4, Pupil Core Device), drones FPV (Anafi)
Cloud: AWS (S3, Lambda,…) , Azure Storage & Active Directory, Google Colab.

EXPERIENCE

Thales SIX GTS – Vélizy, France *(June 2023 - Today)*
Service Mission : Software Engineer Python/Java

- Development of a data validation solution

Skills: Java, Python, Git.

Pacte Novation – Issy Les Moulineaux, France *(May 2023 - Today)*
Research in Machine and Deep Learning for cross-view geolocation (GEO-INT)

- Research and development on a deep learning model that correlates UAV images with a satellite view for geolocation.
- Scraping and building of a database for geolocation

Skills: Google Earth Pro, Google Earth Engine, XML, Python, Pytorch, GEOINT, Git, Research Methods.

Parrot SA – Paris, France *(March 2023 - May 2023)*
Service Mission : Machine and Deep Learning in stereovision for UAV

- Built multiple Deep Learning vision models for depth estimation
- Database analysis and fine-tuning
- Development of a data visualization tool based on Napari

Skills: Deep Learning, Python, Computer Vision, Pytorch, Cafee, Embedded Systems, Git, Linus, Napari, Pandas.

Civil Engineering Laboratory – Illinois Institute of Technology *(January 2022 - September 2022)*
Research in Machine and Deep Learning

- Built multiple Deep Learning models to assess users' cognitive abilities during problem-solving tasks in an augmented reality environment.
- Data collection on students (created an application for augmented reality environment, HoloLens 2), data ethics.
- Data collection system for real-time collection and inference.
- Research paper (ICCCBE 2022).

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

PROJECTS

- IA image generation, implementation DC-GAN & W-GAN with Mini-Batch Discrimination
- Deep learning model for heart rate prediction
- Turnover prediction for stores (for next 8 weeks) using LSTM
- Image classification for faces and for drone images both based on GoogLeNet implementation
- Optimization method with deep learning
- ReactJs portfolio

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…)