Antonin VILLEMIN

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Artificial Intelligence Engineer

EDUCATION

Master and Bachelor of Engineering - **IMT Atlantique** - Brest, France / **GPA: 3.7** 2016-2020

- Exchange program - **Polytechnique Montréal**, Canada 2019 – 6 months
- Exchange program - **Indian Institute of Technology Delhi**, India 2018 – 6 months
- **Double degree** - Bachelor of science, Physics Major – Université de Bretagne Occidentale 2016-2017

Preparatory classes – Lycée Franklin Roosevelt – Reims, France: 2014-2016

Two years to prepare entry competitive examinations for French Engineering Schools

RELEVANT COURSES

- Machine Learning and Deep learning
- Programming and Data Structure
- Probabilities and Signal Processing
- Advanced Graph Theory
- Image Processing
- Natural Language Processing
- Robotics
- Database Management
- Project Management

EXPERIENCES

- **Research internship in Artificial Intelligence** – **Safran Electronics & Defense**, Paris: 2019 – 6 months
  Mission: Developed an IA able to control an upper-limb exoskeleton for the French Army.
  The goal was to predict the soldier's movements so that the exoskeleton can anticipate its own movements.
  To get to this point, I had to build my own prototype from electronics to control engineering.
- **Research internship in Machine Learning** – **Amadeus IT Group**, Nice: 2018 – 6 months
  Mission: Use weather forecast for flight disruption risk management. Developed a machine learning algorithm to predict cancellations and delays on US domestic flights. Worked on imbalanced dataset in Python with Keras, scikit-learn, pySpark and MLlib.

PROJECTS

- **Natural Language Inference:** determined if one given statement semantically entails another given statement. 2019 – 50h
  Project realized using bidirectional LSTM, BERT and transformers with PyTorch.
- **Developed an AI on top of Minecraft** with PyTorch: the bot is able to resolve tasks as walking through a maze and reach the final reward. The goal was to apply research papers as convolutional deep Q-learning, eligibility trace, world model and Deep Neuro Evolution on a specific environment. 2018 – 70h
- **Machine Learning personal projects**: generate hand-written digits with a GAN, style transfer with Convolutional Neural Network, Digit Recognizer, teach a robot to walk and many more. 2017 – now

TECHNICAL SKILLS

- **Programming Languages**: Python, Java, C++, Matlab, SQL, bash
- **Libraries**: Scikit-learn, pySpark, OpenCV, keras, PyTorch, Tensorflow, MLlib
- **OS/software**: Linux, Windows, Android Studio, ROS, Gazebo, rviz, GitHub

LANGUAGES

- **French**: native
- **English**: professional proficiency (TOEFL 607/677 - 2017)
- **Spanish**: advanced (B2)

MOOCs – UDEMY COURSES

- Machine Learning A-Z™: Hands-On Python & R In Data Science
- Deep Learning A-Z™: Hands-On Artificial Neural Networks
- Artificial Intelligence A-Z™: Learn How To Build An AI
- Spark and Python for Big Data with PySpark
- Artificial Intelligence 2018: Build the Most Powerful AI
- Artificial Intelligence Masterclass

EXTRA-PROFESSIONAL ACTIVITIES

- **Treasurer** of the student association of IMT Atlantique:
  Managed a budget of 220,000€ across different activities, travels and weekly events for 1000 students
  Managed a team of 20 people, relation between the students and the administration
- **Volunteer** at TSF, the humanitarian association of IMT Atlantique
  One month of humanitarian mission in Nicaragua, building a communal house; Computer courses for migrants.
- **Sport**: swimming (12 years in club), rugby, climbing, running, hiking
- **Hackathons**: Google Hash Code (2017-2019), Climate Change IA Hackathon at MILA, CodeML, BattleDev
  Top 0.3% on CodinGame and **top 0.1%** on Clash of Code

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