

Antonin VILLEMIN

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RESEARCH INTERN

Data and Applied Sciences

Summary: Data scientist student in a gap year, I'm looking for a 6-months internship by the beginning of March. I decided to do a gap year to apply concretely what I've learnt so far and to transform personal projects into real work experiences. **My next objective:** contribute in research papers, pursue a **PhD** in AI.

EDUCATION



- Master and Bachelor of science - IMT Atlantique - Brest, France / GPA: 3.5** 2016-present
- Exchange program - **Indian Institute of Technology Delhi** one semester
 - **Double degree** - Bachelor of science, Major Physics – 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
- Image Processing
- Advanced Graph Theory
- Database Management
- Computer Organization and Architecture
- Digital Electronics and VLSI Design
- Robotics
- Mobile networks
- Project Management

EXPERIENCES / PROJECTS



- **Research intern in Machine Learning – Amadeus IT Group:** Sept 2018 – March 2019
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.
- **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 or eligibility trace on a specific environment. 2018 - ongoing
- Developed a **geolocation system using Wi-Fi signals** usable for Android's mobiles 2017 – 108h
- Developed a **mobile platform** able to dodge obstacles thanks to an Arduino board, remote controlled by an Android application; team worked. 2016 – 108h
- Developed a **RFID system** to replace mechanical sensors to improve security of industrial machineries thanks to a Raspberry Pie. The system can be monitored through a website 2015 – 150h

TECHNICAL SKILLS

LANGUAGES



- **Programming Languages:** Python, Java, C++, Matlab, SQL, bash, PHP, HTML, CSS
- **Libraries:** Scikit-learn, pySpark, OpenCV, keras, pyTorch, tensorflow, pandas
- **OS/software:** Linux, Windows, Android Studio, ROS, Gazebo, rviz, GitHub
- **Artificial intelligence:** CNN, RNN, RL, deep Q-learning, Boltzmann machines, autoencoders and self-organizing maps
- **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
- Artificial Intelligence 2018: Build the Most Powerful AI
- Spark and Python for Big Data with PySpark

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
- **Computing and robotics:** Raspberry Pie, Arduino, Android applications, domotics



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