

Antonin VILLEMIN

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Personal website: <https://avillemin.github.io/>

Senior Data Scientist

EDUCATION



- Master and Bachelor of Engineering** – Specialization: Data Science - **IMT Atlantique** - Brest, France 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
- Cloud computing
- Database Management
- Project Management

EXPERIENCES



- **Lead Data Scientist – BNP Paribas Cardif**, Chile: 2023 – 1 year
Worked in the Regional Team as IA expert to develop and deploy predictive models in all Latino America. Held the position of technical lead, supporting around ten data scientists on their projects. Deployed several models, including claims automation models or pricing models, while facilitating collaborative developments across different countries.
- **Data Scientist – BNP Paribas Cardif**, Spain: 2020 – 2 years
Developed Machine Learning models to improve the overall insurance business. Improve sales: propensity and churn models. Improve customer satisfaction: email classification model and topic modeling on customers reviews. Communicated Analytics value proposal in the company. Helped business partners with their data.
- **Research internship in Artificial Intelligence – Safran Electronics & Defense**, France: 2019 – 6 months
Developed an IA able to control an upper-limb exoskeleton. The goal was to predict a soldier's movement so that the exoskeleton can anticipate its own movements. Built my own prototype from electronics to control engineering.
- **Research internship in Machine Learning – Amadeus IT Group**, France: 2018 – 6 months
Use weather forecast for flight disruption risk management. Developed a Machine Learning model to predict cancellations and delays on US domestic flights.

PERSONAL 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

LANGUAGES



- **Programming Languages:** Python, Java, C++, Matlab, SQL, bash
- **IA:** Scikit-learn, OpenCV, keras, PyTorch, Tensorflow
- **Big data:** Spark, Hadoop, MLlib
- **Cloud computing:** Amazon Web Services, Microsoft Azure
- **French:** native
- **English:** professional proficiency (TOEFL 607/677 - 2017)
- **Spanish:** professional proficiency

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