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Aurélien Roy

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🏛 Education

M.Sc.Eng   University of Technology of Compiègne (Paris-Sorbonne)   **2016-2019**

- **Computer Science (major):** Data structures and algorithms, Object-oriented programming, Structure of a CPU, Stochastic processes, Operational research, Graphs theory, Databases conception
- **Data mining and B.I (minor):** Machine learning, Statistics, Data mining and analysis, Indexing and information search, Data-warehouses conception and population
- **Other courses:** Intercultural business, Project management
- **GPA:** 4.75 / 5.00

Bachelor Degree   Paris-Sud University   **2014-2016**

- **Computer Science (major):** Algorithms, Databases, System and networking, Web and Android development
- **Result:** First in class

💼 Work experience

ML Research intern   UMRsu (Town planning Research Institute), Canada   **6 months, 2019**

- Analyzed and valued 5 years of data from 911 call center in Québec City
- Designed predictive models for police event quantification (crime, burglaries…)
- Trained ***LSTM*** and ***decision trees*** models offering ***~19% higher accuracy*** than seasonal models at event count prediction
- Presented methodology and results in a ***research paper*** (pending review)
- **Technologies:** PyTorch, scikit-learn, PostgresSQL

Software engineer intern   Thales (Defense), France   **6 months, 2018**

- ***Broadened usage*** in the department of a scenario editor software by improving it to handle new use cases
- Harmonized the tools used by two different Agile teams by ***enabling information exchange*** between them
- ***Saved 2-week*** per new software release of a military radio simulator by building an ***automated qualification process***
- **Technologies:** C++, Java, SWT

Software developper intern   CMS Informatic (IT training), France   **3 months, 2016**

- ***Improved reliability*** of an Access application for managing training sessions and customers by reengineering it.
- **Technologies:** Access, VBA

📂 Software projects

Find Cat Breed (iOS app)   Personal project   **2019**

- ***Taught myself Swift,*** built an iOS ***computer vision*** app using ***machine learning***, and published it on the ***App Store***
- Trained an image classifier capable of distinguishing ***44 cat breeds*** with a ***51% accuracy***
- **Technologies:** Swift, CoreML, fast.ai

Business app (Web app)   Freelance (Client: Arabesque - Dance School)   **2018**

- Developed a ***single-page app*** allowing the dance school to manage its members, the registration renewals, the membership billing and the course schedule
- **Technologies:** PHP, SQL, Vue.js

Craftasia (Large Minecraft server)   Personal project   **2013-2016**

- Developed and deployed game modes, ***administrated a Unix server*** for one of the largest french Minecraft server in its time (10K registered members and up to 150 simultaneously online players)
- **Technologies:** Java, PHP, Maven, SQL, Unix

</> Skills

- **Technologies:**
  Programming: C/C++, iOS development, Java, Swift ; _Data science:_ Python, PyTorch, R, scikit-learn, SQL, Tensorflow
  Web: HTML, CSS, Javascript, PHP, Vue.js ; _DevOps:_ AWS, Git, Maven, Unix
- **Machine learning:** Deep neural networks, SVM, splines, decision trees, discriminant analysis
- **Business intelligence:** Data-warehouse and datamarts conception and population