Morgan Buisson

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EDUCATION

Institut Polytechnique de Paris — Paris, France
PhD, Music Information Retrieval (Music structure analysis) — *Oct. 2021 – Present*

Pompeu Fabra University (UPF) — Barcelona, Spain
Master of Science, Sound and Music Computing — *Sep. 2020 – June 2021*

Institut National des Sciences Appliquées (INSA) — Rouen, France
Master Degree in Engineering, Applied Mathematics — *Sep. 2014 – Dec. 2019*

EXPERIENCE

Scientific Advisor — Feb. 2020 – July 2020
Aubay France — *Boulogne-Billancourt, France*
- Scientific advisor for the R&D department
- Planned research directions for projects studied by current and future interns
- Computer vision, reinforcement learning, web mining

Engineering Intern — June 2019 – Dec. 2019
Aubay France — *Boulogne-Billancourt, France*
- Research in Web Mining and Machine Learning
- Markov chains, graph theory, reinforcement learning, bayesian networks
- Python, Java JEE, Neo4J

Research Intern — June 2017 – September 2017
Carnegie Mellon University — *Pittsburgh, PA, USA*
- Computer Science department, summer internship in Music and Computing
- HCMP Project (Human Computer Music Performance)
- Java software displaying music scores during a live performance
- Improved overall performance, added dynamic annotations, deployed to mobile devices

PROJECTS

MSci Thesis (UPF) | *Python, Librosa, Essentia, Tensorflow* — Nov. 2020 – June 2021
- **Improving Generalization of Deep Learning Music Classifiers**
- Implementing Audio Data Augmentation and Outliers Detection techniques
- Noise Robustness, Label Distribution Learning

Final Project (INSA) | *Python, Librosa, Scikit-Learn, Tensorflow* — Sep. 2018 – June 2019
- **Automatic Music Genre Classification**
- Compared performance of Feed-Forward, Convolutional and Recurrent Neural Networks

TECHNICAL SKILLS

Languages: Python, Java
Developer Tools & Frameworks: Flask, IPython (Jupyter) Notebook, Git, Eclipse
Libraries: Pandas, NumPy, Matplotlib, Seaborn, Librosa, Essentia, Scikit-Learn, TensorFlow

SCIENTIFIC SKILLS

Mathematics: Probability & Statistics, Stochastic Processes, Graph Theory, Optimization, Signal Processing
Computer Science: Data Structures, Dynamic Programming, Multimedia Technologies, Computational Creativity
Others: Music Perception, Cognitive Sciences

LANGUAGES

French: Native Language **English**: High Level, C1 European Framework, TOEIC Score : 965/990, TOEFL Score : 111/120 **Spanish**: High Level, C1 European Framework