Jean-Patrick Francoïa

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JPFrancoia
Nationality: French; Age: 31

For an up-to-date version, check my personal page: https://jpfrancoia.github.io

Professional experience

2021–Today **Software engineer**, *Babylon Health*, London, U.K.
MLOps for healthcare

- Ensuring high availability/quality of medical data in a regulated environment
- Improving a microservice architecture to test the safety of new AI models
- Releasing AI models to production to improve patient outcome while maintaining safety

2018–2021 **Data engineer**, *Okra Technologies*, Netherlands.
Building analytics engines for healthcare

- Building data pipelines: from data mining to feature engineering, focus on robustness
- Building data lakes: using AWS cloud to store/process data from pharmaceutical companies
- Building web applications: design and maintenance of Flask apps, with CI/CD and unit tests

2017–2018 **Postdoctoral researcher**, *University of Glasgow*, Scotland.
3D printing applied to chemistry

- Development of a CAD software to simplify the design of 3D printed reactors
- Development of 3D printing techniques for unconventional materials

2013–2016 **Teaching assistant**, *Université de Montpellier*, France.
Laboratories in organic and general chemistry for undergraduate students (*ca.* 200 hours)

Education

2013–2016 **Ph. D. in chemistry**, *Université de Montpellier*, France.
Supramolecular chemistry, software engineering, machine learning, biosensors

- Machine learning (PCA, LDA) coupled with chemical sensor arrays (published paper)
- Machine learning (SVM) and software development to facilitate literature survey (published paper)
- Developement of nonlinear modeling softwares for the extraction of physical constants

2012–2013 **Master in chemistry, with honours**, *Lund University*, Sweden.

2012–2013 **Training period**, *Lund University*, Sweden.
Organic synthesis, catalysis

Apr. 2010–June 2010 **Training period**, *University of Whitewater*, Wisconsin, United States.
Organic synthesis, chemical biology

Skillset

- Deep knowledge of Python and its ecosystem: pandas, numpy, scipy, matplotlib, scikit-learn, Flask, SQLAlchemy, mypy, PyQt (GUI), etc
- AWS Certified Cloud Practitioner: obtained January 2022. Excellent knowledge of AWS Cloud services: EC2, S3, Glue, Lambda, CloudFormation, etc
- Developer of **ChemBrows**: a software that helps researchers to stay up-to-date with the flood of scientific literature. Uses web scrapping and machine learning (SVM) to improve efficiency. www.chembrows.com (400+ users)
- Lead interviewer for technical interviews (*ca.* 20 interviews)
- Contributor to open-source projects (code and bug reports): scikit-learn, aws-data-wrangler, Apache Airflow, Cura, etc
- Good knowledge of Docker, SQL, Rust

Selected Publications

Full publication list available at https://jpfrancoia.github.io/publications

- **Automatic Generation of 3D-Printed Reactionware for Chemical Synthesis Digitization using ChemSCAD** *ACS Cent. Sci.*, 2020 - open access, citations : 11
- **Digitization of multistep organic synthesis in reactionware for on-demand pharmaceuticals** *Science*, 2018, **359**, 314 - open access, citations : 137
- **ChemBrows: An Open-Source Application Software To Keep Up to Date with the Current Literature** *J. Chem. Educ*, 2016, **93**, 1137 - open access, citation : 1
- **A KISS (Keep It Simple, Sensor) Array for Glycosaminoglycans** *Chem. Commun.*, 2015, **51**, 17544 - citations : 13

Hobbies

Martial arts.
Kyokushinkai karate, Brazilian jiu-jitsu, Muay-thaï, Krav-maga, Sambo, Tae Kwon do

Salsa.
Cuban and L.A. style

D.I.Y (Do It Yourself).
3D printing (owner of several 3D printers), microelectronics (IoT, MicroPython)