Hugo HADJUR, PhD

AI & Statistical Methodologist

Grenoble, FRANCE — hugo.hadjur@saryga.com

PhD in computer science and artificial intelligence. Multicultural background from professional experiences in **France, Japan and the US**, involving **academic research**, **teaching** and working in the **industry**.

Thesis manuscript | Academic Page | Google Scholar | LinkedIn

WORK EXPERIENCE

SINCE DEC. 2023
CDI

Junior AI & Statistical Methodologist at **Saryga** (FRANCE)

— **Biostatistics and Pharma projects**: predictive biomarker cutoff selection methods; survival analysis for PDX; quantitative decision-making methods at the portfolio level; implementation and simulation of PoC multi-arm trials, optimization of sample size.

— **Tech projects**: semantic analysis using LLMs, zero-shot text classification, paraphrase mining; development of R Shiny web app to identify targets using Multi-Criteria Decision-Making methods.

SEPT. 2020 - AUG. 2023
3-year CDD

PhD Candidate and Assistant Professor at **École normale supérieure de Lyon** & **aivancity** (FRANCE)

— PhD Research Topic: **Designing sustainable, autonomous, and energy efficient Internet of Things systems, applied to smart beehives**
PhD under the advisorship of Laurent Lefèvre and Doreid Ammar (LIP-Avalon laboratory)
— Teaching: **advanced data analysis and visualization**, **data preprocessing and visualization** and **coding for AI and data science** (Python, Tableau)
— **Intern supervision**: connected beehives deployment & data analysis
— Head of online course platform aivancityX

SEP. 2019 - AUG. 2020
& OCT. 2018 - DEC. 2018
1-year CDD

Instructor & Researcher at **emlyon Business School** (FRANCE)

— Research: Connected beehives, bees' data analysis (**IoT, machine learning, computer vision**)

— Teaching: **Python programming bootcamp** and **business analyst toolbelt** (SQL, Excel, Tableau)

JAN. 2019 - SEP. 2019
8-month VIE

Data Analyst at **Schneider Electric**, Houston, TX (USA)

— Supported the business by building **reports/dashboards and KPIs** to monitor performance
— Conducted **database integration** to form practical recommendations
— **Communicated findings** and insights to cross-functional team members and management
— Tool used: **SQL, Tableau, Python**

OCT. 2017 - SEP. 2018
1-year exchange

Student Researcher at **Kyoto University's Ishii Lab** (JAPAN)

— Master's thesis: master board games thanks to **Reinforcement Learning** (Q-Learning, SARSA, Deep Reinforcement Learning)

MAY-SEP. 2017
4-month internship

Data Science Research Internship at **CiNet** (Center for Information and Neural Networks, Osaka, JAPAN)

— **Conducted research** about the links between **Twitter data**, human behavior and brain data
— **Analyzed large data sets** (≈ 500,000 Twitter users) thanks to **PCA, clustering & regression** techniques
— Worked in a **Japanese environment**

Publications

Hugo Hadjur, Doreid Ammar, Laurent Lefèvre. **Deep Reinforcement Learning for Energy-efficient Selection of Embedded Services at the Edge**, 2024 IEEE International Conferences on Internet of Things (iThings), Copenhagen, Denmark, 2024, pp. 67-74, 10.1109/iThings-GreenCom-CPSCom-SmartData-Cybermatics62450.2024.00034. hal-04708697

Hugo Hadjur, Doreid Ammar, Laurent Lefèvre. **Services Orchestration at the Edge and in the Cloud for Energy-Aware Precision Beekeeping Systems**, 2023 IEEE International Parallel and Distributed Processing Symposium Workshops (IPDPSW), St. Petersburg, FL, USA, 2023, pp. 769-776, 10.1109/IPDPSW59300.2023.00129. hal-04091575

Hugo Hadjur, Doreid Ammar, Laurent Lefèvre. **Toward an intelligent and efficient beehive: A survey of precision beekeeping systems and services**, Computers and Electronics in Agriculture, Elsevier, 2022, 192, pp. 1-16. 10.1016/j.compag.2021.106604. hal-03483914v2

Kazuma Mori, **Hugo Hadjur**, Masahiko Haruno. **Natural Language Content Mediates the Association Between Active Interactions on Social Network Services and Subjective Well-Being**, Cyberpsychology, Behavior, and Social Networking, 2022, pp. 678-685. 10.1089/cyber.2021.0340

Hugo Hadjur, Doreid Ammar, Laurent Lefèvre. **Analysis of Energy Consumption in a Precision Beekeeping System**. IoT '20 - 10th International Conference on the Internet of Things, Oct 2020, Malmö, Sweden. pp. 1-11, 10.1145/3410992.3411010. hal-02973772

Communication

Posters

— **ISCB** - Thessaloniki, Greece, 2024. Simple Approaches for Portfolio Quantitative Decision-Making

Presentations

— **GreenDays 2023** - Lyon, France, 2023. Optimiser la sélection de tâches sous contrainte énergétique dans des systèmes IoT grâce à l'apprentissage par renforcement

— **Journées du GDR Réseaux et Systèmes Distribués** - Rennes, France, 2022. Conception de systèmes connectés durables, autonomes et à basse consommation énergétique pour un réseau de ruches connectées distribuées

— **IoT'20** - Online, 2020. Analysis of Energy Consumption in a Precision Beekeeping System

Programming & Software

Programming:	Expert knowledge: **Python (data analysis, visualization and deep learning: time series, computer vision and reinforcement learning), SQL, Tableau, R** Advanced: **Javascript (full-stack), Java, C, C++, MATLAB** Experience using: **Rest APIs, Git**
Design & Text:	**LaTeX, Adobe Photoshop, Microsoft Office, Inkscape**

Qualifications

✓ "Grande École" diploma + PhD

2020-2023 

PhD at **ENS de Lyon** (**LIP-Avalon** laboratory) & **aivancity**

Develop and model Internet of Things (IoT) systems and services based on Artificial Intelligence (AI) to support beekeepers in their work and preserve bees while studying the efficiency of connected beehives that are autonomous, sustainable, distributed and operate under limited energy budget.

2017-2018 

Exchange year at **Kyoto University's Graduate School of Informatics**

Alongside courses in English and Japanese, I worked toward my Master's thesis. This thesis proposes a reinforcement learning method applied to the game of bridge. The Q-Learning and SARSA techniques reach a level of play comparable to an intermediate human player.
— Classes in **English & Japanese** in the department of **social informatics**: **statistics, machine learning**

2015-2017 

French "Grandes Ecoles": **Ensimag, Grenoble Institute of Technology** (equivalent: Master's Degree)
— MMIS specialization: **programming, advanced statistics, data mining, database manipulation**

2013-2015 

Scientific preparatory classes at **CPP Grenoble** (equivalent: Bachelor's Degree)
— 2-year intensive university-level preparatory course to enter **highly competitive Ivy League engineering schools**

2007-2013 

Middle school and high school in Tokyo (4 years at **LFIT**) and in Singapore (1 year at **LFS**)
— Scientific baccalaureate with highest honours (French school)