

# Youness Hourri

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## Profile

Software engineering researcher with dual Master's degrees in data science. Experienced in machine learning, NLP, and full-stack development, with a focus on building practical tools and applying research to real-world problems in AI and software systems.

## Experience

### University of Mons, Mons, Belgium

Sep. 2023 - Present

*Researcher, Software Engineering Lab*

- Research on the impact of development bots on contributor roles in open-source communities.
- Assisting in mentoring students and supervising research projects.

### Institut Lyfe Research and Innovation Center, Lyon, France

Feb. - Jul. 2023

*Data Scientist (Internship)*

- Conducted statistical analysis on olfactory perception in perfumery students.
- Applied machine learning and NLP to evaluate aroma descriptions.

### Artificial & Business Intelligence Soft, Fez, Morocco

May - Jun. 2022

*Software Developer (Internship)*

- Designed and developed a web-based application for medical tourism.

## Education

### Université Sorbonne Paris Nord, Paris, France

Oct. 2022 - Jul. 2023

*Master's degree in Machine Learning and Data Science*

- Completed as part of a double-degree program with Université Sidi Mohammed Ben Abdellah.
- Studied data mining, machine learning, and business intelligence.

### Université Sidi Mohammed Ben Abdellah, Fez, Morocco

Oct. 2021 - Jul. 2023

*Master's degree in Web Intelligence and Data Science*

- Completed jointly with Université Sorbonne Paris Nord under Erasmus+ program.
- Studied artificial intelligence, web mining, and natural language processing.

### Université Sidi Mohammed Ben Abdellah, Fez, Morocco

Oct. 2018 - Jul. 2021

*Bachelor's degree in Mathematics and Computer Science*

- Studied mathematics, statistics, programming, and physics.

## Certifications

### DeepLearning.AI & Stanford University, through Coursera

Sep. 2022 - Nov. 2023

*Machine Learning Specialization*

- Supervised Machine Learning: Regression and Classification.
- Advanced Learning Algorithms.
- Unsupervised Learning, Recommenders, Reinforcement Learning

## Publications

**A Dataset of Contributor Activities in the NumFocus Open-Source Community** 28-29 Apr. 2025  
*Youness Hourri, Alexandre Decan, and Tom Mens*  
22nd International Conference on Mining Software Repositories  
Ottawa, Canada

**Smell and Tell: The emergence of olfactory expertise in perfumery students** Jan. 2025  
*Anne-Lise Saive, Jane Plailly, Stéphanie Chambaron, Youness Hourri, Carla Monin, Zeineb Nhouchi, Justine Belay, Pauline Chalut, Farnaz Hanaei, and Nadine Vallet*  
Submitted to Chemical Senses (under review), Oxford University Press

**Towards Understanding Open-Source Software Communities** 21-22 Nov. 2024  
*Youness Hourri*  
The 23rd Belgium-Netherlands Software Evolution Workshop  
Namur, Belgium

## Conferences & Talks

**Lightning talk: a dataset of contributor activities** 28-29 Apr. 2025  
*Data and Tool Showcase Track, MSR 2025*  
Ottawa, Canada

**Poster: a dataset of contributor activities** 28-29 Apr. 2025  
*Joint Poster Session, ICSE & MSR 2025*  
Ottawa, Canada

**Research proposal: understanding open-source communities** 21-22 Nov. 2024  
*23rd Belgium-Netherlands Software Evolution Workshop (BNSEW)*  
Namur, Belgium

**Participation: software engineering summer school** 4-6 Sep. 2024  
*4th International Software Engineering Summer School (SIESTA 2024)*  
Bari, Italy

**Talk: Impact of bots in open-source communities** 29 May 2024  
*InforTech Day 2024, University of Mons*  
Mons, Belgium

## Awards

**Data/Tool Track Distinguished Paper Award**  
*Awarded at the 22nd International Conference on Mining Software Repositories (MSR 2025)*  
for the paper "A Dataset of Contributor Activities in the NumFocus Open-Source Community"

## Academic Activities

**Research Supervisor** Aug. - Sep. 2024  
*Research initiation fellowship for a third-year mathematics student*  
Graph visualization and research in the NumFocus organisation, hosted at the Software Engineering Lab

**Reviewer and Jury Member** Jun. 2024  
*Master's thesis and project defenses in Computer Science*  
Evaluation, feedback, and oral defense participation

**Teaching Assistant** Mar. 2024  
*Practical work sessions for the Software Evolution course (Master's level)*  
GitHub bots, Lehman's laws, and software change principles

## Projects

- **ghmap: GitHub Event Mapping Tool** Sep. - Dec. 2024  
Open-source tool to convert low-level GitHub event streams into structured, high-level contributor activities. Implements a two-step mapping process: (1) parses event payloads to extract precise user actions; (2) aggregates related actions into semantically meaningful activities.  
*Technologies: Python, PyPI, GitHub Actions (CI/CD)*
- **Arabic Sentiment Classification with Fine-Tuned BERT** Jun - Jul. 2022  
Built an NLP pipeline for classifying sentiment in Arabic tweets using a fine-tuned DziriBERT model. Addressed dialectal variability and class imbalance by curating and augmenting labeled datasets. Fine-tuned the model on a balanced corpus of 90k tweets and deployed it with real-time prediction capabilities, achieving 90% accuracy.  
*Technologies: Python, Hugging Face Transformers, BERT, PyTorch, Scikit-learn, Pandas*
- **Facial Recognition System for Soccer Players** Jun. 2022  
Developed a web-based face recognition system to identify professional soccer players using a dataset of over 7,000 labeled images. Applied Local Binary Pattern Histograms (LBPH) for feature extraction and trained an SVM classifier. Integrated the model into a Flask web interface for interactive validation and real-time prediction.  
*Technologies: Python, OpenCV, LBPH, SVM, Flask, HTML/CSS, JavaScript*
- **Cancer Mortality Prediction using Multivariate Regression** May - Jun. 2022  
Implemented a predictive model to estimate U.S. county-level cancer mortality rates using multivariate linear regression. Performed iterative feature selection via VIF filtering and AIC-based backward and forward selection.  
*Technologies: R, ggplot2, caret, car, lmtest*
- **Android Shopping App with Order Management** Jan. - Feb. 2022  
Designed and deployed a multi-activity Android application for browsing and purchasing electronic products. Implemented user registration and authentication, dynamic product listings using RecyclerView, shopping cart functionality, and local order tracking. Used SQLite for persistent storage and modularized UI with custom adapters.  
*Technologies: Java, Android SDK, SQLite, RecyclerView, Gradle*
- **Legal Case Management Platform for Accident Claims** Mar. - Jul. 2021  
Developed a full-featured web platform to support magistrates and legal professionals in managing road accident cases. Enabled structured case creation, multi-step victim and accused entry, hearing scheduling, and automated compensation calculation. Designed for secure access, remote usability, and fast record retrieval by multiple identifiers.  
*Technologies: Java, Spring Boot, Thymeleaf, Hibernate, MySQL, HTML/CSS, JavaScript, Bootstrap*

## Technical Skills

- **Languages:** Python, Java, R, C/C++, PHP, SQL, JavaScript, MATLAB
- **Data Science & Machine Learning:** Supervised/Unsupervised Learning, Deep Learning, NLP, Recommender Systems, Statistical Analysis, Data Mining, Computer Vision
- **Frameworks & Tools:** PyTorch, scikit-learn, Transformers (Hugging Face), OpenCV, Flask, Spring Boot, Hibernate, React Native
- **Software Engineering:** OOP, UML, Merise, Design Patterns, REST APIs, Version Control (Git), Agile
- **Databases:** MySQL, Oracle, SQLite, PL/SQL, NoSQL
- **Development Platforms:** GitHub Actions, Jupyter, RStudio, Android Studio, VS Code, Maven, Gradle, LaTeX

## Languages

**Amazigh, Arabic** (Native) — **French** (Fluent) — **English** (Professional)

## **Soft Skills**

- Adaptability & Problem-Solving
- Teamwork & Collaboration

## **Interests**

Open-source, blogging, cultural heritage, antiques, hiking, classical music

## **Volunteering**

- Linkee (France, 2023) - Assisted in food distribution for students in need.
- Équipage Solidaire (France, 2023) - Delivered hygiene kits and essential supplies to students.