

# Fatima Zahra Iguenfer

✉ fz.iguenfer@gmail.com     Github     Google Scholar     Medium Blog     LinkedIn

## Education

---

### Al Akhawayn University in Ifrane

Sep 2021 – Jun 2025

Honors BS in Computer Science, ABET/NECHE Accredited

CGPA: 3.92/4.0

Concentration: Artificial Intelligence 4.0/4.0

Minor: Mathematics and Statistics 4.0/4.0

### Kennesaw State University

Aug 2023 – Dec 2023

Bilateral Exchange in Georgia, USA

### Hertie School

Jun 2022 – Aug 2022

Data Science Summer School in Berlin, Germany

## Work Experience

---

### Junior Data Analyst

Sep 2025 – Present

Bell Canada (Remote) - AI/Data Science Team

- Analyze enterprise data trends and build interactive dashboards to support Bell's AI-driven solutions improving customer experience and operational efficiency for 22+ million customers annually
- Perform deep-dive ad-hoc analyses using SQL and statistical methods to extract insights for cross-functional teams

### Co-Founder & CEO

Nov 2024 – Present

NourID+ | Digital Energy Identity Startup

- Led Amanar team from hackathon ideation to deployment, securing partnership with La Société Régionale Multiservices (SRM)
- Developed digital identity framework addressing Morocco's 14% energy poverty rate through equitable electricity subsidy allocation
- Scaling solution across 7 provinces, 153 municipalities, targeting 27% rural population facing energy poverty

### Teaching Lab Assistant

Sep 2024 – May 2025

Student Employment Office

- Led a team of 20 Teaching Lab Assistants across 7 class sections, conducting 256 lab sessions for *CSC 1401: Computer Programming in Python*
- Provided individual support through 64 group tutoring sessions and 20 office hours, serving 40+ students
- Developed quizzes and practice problems to improve passing rate average

### Artificial Intelligence Engineer (NLP focus)

Jun 2024 – Aug 2024

Caisse de Dépôt et de Gestion (CDG Group)

CDG is Morocco's leading state-owned financial institution managing long-term savings and driving national economic development

- Developed a Named Entity Recognition model for financial documents to support CDG's vision to automate manual workflows
- Fine-tuned XLM-RoBERTa transformer model with domain-specific metrics, using statistical techniques to validate findings and achieving 98% overall accuracy across 6 critical named entities

### Peer Tutor

Jan 2024 – Jun 2024

Center for Learning Excellence

- Conducted 150+ tutoring sessions across STEM subjects (Computer Programming, Java, Database Systems, Calculus, and Discrete Mathematics)
- Adapted teaching methodologies to accommodate students with special learning needs within the Inclusion Program
- Achieved highest tutor satisfaction score (9.957/10.00)

## Research Experience

---

### AI Research Engineer

Jun 2025 – Aug 2025

*The Upanzi Lab at CMU-Africa*

Awarded a fully-funded research/incubation internship by CMU-Africa to advance the NourID+ startup

- Implemented a computer vision pipeline for secure user identification by matching faces against National ID photos
- Built an XGBoost-based predictive model for energy consumption forecasting, enabling data-driven subsidy allocation
- Developed a multilingual conversational AI chatbot serving both English and underrepresented Arabic-speaking citizens

### AI Research Assistant (ArabicNLP focus)

Sep 2024 – Present

*School of Science and Engineering*

- Built the first structured Arabic Knowledge Graph aimed at enhancing the generation of Wh-questions of a text recommender system for Arabic learners
- Fine-tuned CAMEL-BERT-Mix for NER, XLM-RoBERTa for relationship extraction, and Neo4j for graph storage, analyzing large volumes of unstructured data to achieve 85%+ extraction accuracy

### University Honors Program Student

Jan 2023 – May 2025

*Al Akhawayn University*

- Enrolled in the honors program focusing on research methods, scientific writing, and independent research projects. All research papers can be accessed [here](#)

## Publications and Manuscripts

---

### NOURID+: A Digital Energy Identity Framework for Efficient Subsidy Allocation in Morocco

Accepted at  
IEEE CiSt'25

*Conference Paper*

Pre-print: [arxiv.org](#)

### Automated Multi-Attribute Annotation for Enhanced Cell Microscopy Datasets

Accepted at  
IEEE WinCom'25

*Conference Paper*

### Comprehensive Survey of Machine Learning Methods for English-Arabic Translation: A Case Study on Wikipedia

To Be Submitted to  
IEEE Access

*Journal Paper*

### Point Cloud to Mesh Reconstruction: A Focus on Key Learning-based Paradigms

To Be Submitted to  
IEEE Access

*Journal Paper*

Pre-print: [arxiv.org](#)

### DarBERT: A Moroccan Arabic Language Model

[KSU Symposium of Student Scholars](#)

## Latest Projects

---

**AlFoxAI:** A web platform equipped with an emotionally intelligent AI assistant that explains concepts of artificial intelligence theory inspired by the MIT OpenCourseWare courses and powered by OpenAI GPT-4o, as well as ElevenLabs voiceover. This project was finalist in the [Hack-Nation Global AI Hackathon, 2025](#)

**NourID+:** A Moroccan digital energy identity system with AI-powered face matching, conversational chatbot interface, and real-time energy monitoring with predictive forecasting. This digital energy identity platform won first prize for runners-up in the [Digital ID Hackathon Africa, 2025](#)

**BetaMPERL:** A capstone project for multi-label entity classification in Knowledge Graphs that combines an adaptive Markov process, a relational GCN, and Beta probabilistic learning, achieving strong accuracy in a subset of the YAGO43kET dataset

**ForexARIMA:** A time series forecasting model developed for the CIH Bank Hackathon to help Moroccan banks build advanced financial technology infrastructure for the FIFA World Cup 2030. The project analyzed long-term

foreign exchange trends using ARIMA statistical modeling with AIC-optimized parameters, integrated into a mobile application prototype to support enhanced financial services during the global event.

## Awards and Honors

---

Awarded a grant from CMU-Africa to publish the *NourID+* paper and attend the IEEE CiSt 2025 conference

Received Third Best Undergraduate Research Award in the School of Science and Engineering, Class of 2025

Graduated with Honors distinction as one of only 8 students among 600 in the Class of 2025

Finalist, [Digital ID Hackathon Africa \(2025\)](#) — organized by CMU-Africa and hosted at the [ID4Africa](#) annual meeting in Ethiopia

Finalist, [Hack-Nation Global AI Hackathon \(2025\)](#) — organized by the MIT and sponsored by OpenAI

Awarded a merit scholarship and financial aid package to attend Al Akhawayn University

President's List (Fall 2021, Spring 2023, Fall 2023, Fall 2024)

Dean's List (Spring 2022, Fall 2022, Spring 2024, Spring 2025)

## Service

---

### Wikipedia Volunteer Editor

*Sep 2025 – Present*

*Wikimedia Foundation*

- Review and edit Darija (Moroccan Arabic) articles for writing style, grammar, and content quality
- Author new short articles to expand Darija language representation on Wikipedia

### Ambassador

*Aug 2025 – Present*

*DigitalID Hackathon*

- Selected to participate in the Ambassadors program for Digital ID Competitions, serving as a mentor to future participating teams from Africa

### WIE Chair

*Aug 2024 – Dec 2025*

*IEEE*

- Established the first IEEE Women in Engineering (WIE) student branch affinity group in Morocco
- Grew the community to 350 members, including over 60 active female participants
- Organized workshops, networking events, and collaborative initiatives addressing global challenges, technological innovation, and sustainable practices

### Co-Founder & Head of Research

*Feb 2022 – Oct 2023*

*Moroccan Mathematical Community*

- Co-founded the Moroccan Mathematical Community ([MMC](#)), a non-profit association focused on advancing mathematics education and research among high school students in Morocco
- Established and led the Research Department of 12 higher education students, promoting Mathematics and Computer Science through weekly workshops attended by 100+ participants
- Initiated the “*MMC Caravane*” project to reach marginalized Amazigh communities in rural Morocco, raising awareness and providing access to STEM learning opportunities

### Team Member, Marketing Department

*Feb 2022 – Oct 2022*

*AIESEC Ifrane*

- Collaborated with local committee members to promote AIESEC programs and opportunities
- Supported organizational goals through strategic marketing activities and community outreach

### Head of Sponsoring & Volunteer tutor

*Jan 2022 – Aug 2023*

*Astronomy Club*

- Led the sponsoring committee and successfully raised 100,000 MAD for the 10th edition and 65,000 MAD for the 11th edition of the festival
- Secured funding to cover accommodations for high school students competing in the national public speaking contest organized by the Astronomy Festival