Omar AbedelKader

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Summary

I am an AI researcher with extensive experience in artificial intelligence and software engineering. I am currently pursuing a Ph.D. in Computer Science at the University of Lille. —

Experience

AI Researcher — INRIA (Villeneuve-d'Ascq, France)
Oct. 2024 – Oct. 2027 - Improving code completion and code generation using LLMs, specifically targeting the Pharo programming language, which has limited training data. - Developing techniques for code completion, type inference, and deployment in Pharo's IDE, with a focus on runtime performance.

AI Engineer — INERIS (Verneuil-en-Halatte, France)
Sept. 2023 – Sept. 2024 - Developed "INERIS-IA," a tool to classify textual documents according to INERIS's strategic goals using ML and NLP techniques. - Created Boolean queries for document retrieval and improved corpus quality through document similarity and keyword extraction.

Projects

Pharo-Copilot

- Intelligent code completion and generation tool for Pharo, inspired by GitHub Copilot.
- Focused on repository and package -level code completion.
- Leveraged LLMs to improve developer productivity in a dynamically typed language.
- **GitHub Repository:** Pharo-Copilot

ChatPharo

- Live conversational interface between Pharo developers and large language models.
- Enables interactive discussions with LLMs directly from the Pharo environment.
- Designed an open and extensible architecture to experiment with multiple LLM backends.
- **GitHub Repository:** ChatPharo

INERIS-IA

- AI platform developed at INERIS for document classification and knowledge management.
- Built a Flask-based web interface integrating multiple ML and NLP models.
- Trained document classification models aligned with COP 2027 objectives and INERIS strategic themes.
- **GitHub Repository:** INERIS-IA

Leadership & Community

- Owner of the Organization **Pharo-LLM**
- Member of the Organizing Committee, GDR-GPL'26
- Sub reviewer at BENEVOL'25
- Project lead for **ChatPharo** and **Pharo-Copilot**

Awards

Best Paper Award (3rd place) — IWST 2025, Gdańsk, Poland
"Package-Aware Approach for Repository-Level Code Completion in Pharo" —

Education

University of Lille — Villeneuve-d'Ascq, France
Ph.D. in Computer Science
(Oct. 2024 – Present)

University of Lorraine — Nancy, France
M.Sc. in Natural Language Processing
(Sept. 2022 – Sept. 2024)

Lebanese University — Beirut, Lebanon
B.Sc. in Data Science
(Sept. 2019 – July 2022)

Skills

- **Programming Languages:** Python, Pharo, Java, JavaScript,
- **Machine Learning & Deep Learning:** TensorFlow, PyTorch, Keras, Scikit-learn
- **Natural Language Processing (NLP):** spaCy, NLTK
- **Big Data & Distributed Systems:** Apache Spark, Hadoop
- **Data Analysis & Visualization:** Pandas, Matplotlib, Seaborn
- **Scientific Computing:** NumPy, SciPy

Languages

- **Arabic:** Native
- **French:** Native
- **English:** B2