**?** Grenoble, France.

# ABDERRAHMANE AIT GUENI SSAID

#### **SUMMARY**

AI and ML researcher holding a Master's in Data Science and AI from Grenoble INP-Ensimag. Experienced in cutting-edge AI topics such as knowledge editing in large language models and applying ML to medical imaging. Proficient in multiple programming languages and AI frameworks. Seeking a PhD position in AI, ML or DL.

## **SKILLS**

Languages: English: C2 - EF SET, French: C1, German: Beginner, Arabic: Native, Kabyle: Native.

**Programming**: Python, C/C++, Cuda, Java, SQL, Git, Java RMI, RabbitMQ.

Tools: Linux, Shell, LaTex, GDB, Docker, Anaconda.

**Packages**: Pytorch, NumPy, SciKit-Learn, SciPy, Pandas, Transformers, Matplotlib, Seaborn, OpenCV, BeautifulSoup.

#### **INTERNSHIPS**

Research Engineer

**Orange - Lannion** 

Mar. - Aug. 2024

- **Subject:** Evaluation of knowledge editing in large language models (LLMs).
- Contributed to the definition of a **Knowledge Measure** (**KM**), to evaluate **atomic knowledge editing** of LLMs. Incorporated temporality. Conducted validation experiments on various LLMs and a random LM.

#### **Research Engineer**

#### **Grenoble Informatics Laboratory**

May - July 2023

- Subject: Integrating information retrieval (IR) constraints in deep neural networks.
- Reformulated **IR constraints** to the neural framework by developing the **mathematical foundations**.

## **Research Engineer**

#### **Grenoble Institute of Neurosciences**

Feb. - Aug. 2022

- **Subject:** Integration of multi-parametric data by ML for the development of an imaging bio-marker in epilepsy.
- Implemented a clustering model using **k-means** and **Gaussian mixture models** for multi-parametric data, and evaluated employing AIC and BIC criterion's. Used mainly **Python**, **scikit-learn** and NiBabel.

## **Research Engineer**

## **Grenoble Informatics Laboratory**

**June – July 2021** 

- Subject: Data augmentation with GANs for semi-supervised classification applied to images.
- Implemented a **semi-supervised model** in python for the prediction of phase and Euler angles in microscopic data. Evaluated different models and techniques including **GANs**, **SVMs** and **Random forest**.

## **EDUCATION**

#### M.S. in Data science and AI

## **Grenoble INP-Ensimag**

Aug. 2024

- 2nd year GPA: 14/20 (High Honors).
- 1st year GPA: 13/20 (Top 30% of the class).

## Magistère in Computer science

## Université Grenoble alpes

Aug. 2024

• University diploma of research in computer science 3 years GPA: 14/20 (High Honors).

#### **B.S.** in Computer science

## Université Grenoble alpes

Aug. 2021

### **PUBLICATIONS**

• Factual Knowledge Assessment For Language Models Using Distractors, 2024, (Under Review).

#### **CERTIFICATIONS**

• Mathematics for Machine Learning: Linear Algebra, (2023), Imperial College London, Coursera.

## **PROJECTS**

#### 2024

- Made With ML: Combine machine learning with software engineering to design, develop, deploy and iterate on production ML applications.
- HomeLab: A home server running multiple VMs and docker containers nodes on a Proxmox hypervisor.
- Finetuning Large Language Models, deeplearning.ai.
- Pretraining LLMs, deeplearning.ai.
- Let's reproduce GPT-2 (124M), Andrej Karpathy Tutorial.
- GPU-Accelerated Multilayer Perceptron from scratch for MNIST Digits Classification.

#### 2023

- ML Algorithms from scratch, Perceptron, Gradient descent, K-means, MLP.
- Let's build GPT: from scratch, in code, spelled out, Andrej Karpathy Tutorial.
- SAT Solver, Automated Planning and Problem Solving using PDDL4J and Sat4J.
- **Distributed Messaging System using Virtual Overlay Ring Network**, Designed and implemented using Java and RabbitMQ, highlighting expertise in distributed systems and routing algorithms.
- **System Programming NachOS**. Collaborated in a team to implement processes, threads and synchronization features in the NachOS, gaining experience in OS design, implementation and multithreading.

#### 2022

• **Internships web scraping** Developed an automated application to extract and organize internship proposals from the faculty website into a CSV format. Python, Pandas, BeautifulSoup.

## **WORK EXPERIENCE**

#### **Student Tutor**

## Self-employed - Grenoble

Sept. 2019 – Present

- Taught maths, physics, chemistry and computer science, to all ages ranging from children to elderly.
- Skills: teaching, communication, patience, problem-solving, adaptability, time management.

#### **Education Assistant**

## **Grenoble High School**

Sept. 2021 - Aug. 2023

- Facilitated student growth through comprehensive residential support and dedicated supervision.
- Skills: leadership, responsibility, communication, mediation, teamwork.

#### **Student Tutor**

#### **SOLUTION BILINGUE**

Dec. 2018 - June. 2019

- Taught maths, physics and chemistry, to pupils ranging from elementary to high school.
- Skills: teaching, communication, patience, problem-solving, adaptability, time management.

## **VOLUNTEERING**

- **Technical Support.** Provided technical support by maintaining and troubleshooting surveillance cameras, video projection, and sound systems, along with other technical tasks.
- **Bread collection.** Coordinated the collection of surplus bakery bread for distribution to those in need through a charity.
- Local cleaning. Contributed to the maintenance and cleanliness of a local community association.