NOUHA KARAOULI

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EDUCATION

Rennes University, IRISA | PhD, Research — *Dec, 2024 - Present*

National Engineering School Of Carthage | National Engineering Degree in infotronics — *2021 - Present*

Faculty of Sciences of Tunis | Preparatory program in Physics and Chemistry — *2019 - 2021*

Wafa High School, Gazela City | High School Diploma in Science — *2018 - 2019*

PROFESSIONAL EXPERIENCES

Research | Rennes University, IRISA lab — *Dec, 2024 - Present*

- I leverage time series foundation models for forecasting, with the goal of incrementally adapting these powerful models to run efficiently on embedded systems that have strict constraints on energy consumption, computational resources, and memory.

End Of Studies Internship | Centralesupélec Rennes, IETR lab — *Apr - Oct 2024*

- Enhancing physical layer security, our Machine Learning-based Device Identification System leverages advanced deep learning models and architectures to analyze distinct RF fingerprinting techniques, ensuring precise identification of transmitting devices and fortifying networks against unauthorized access and threats.

Engineering Internship | Bee Coders — *Jul - Aug 2023*

- Building a data-driven competitive analysis platform using social media scraping APIs, enabling optimized decision-making for the marketing team.

ACADEMIC PROJECTS

Pay HowYou Drive | Big Data and AI

- Designing a data collection system for driving behavior using in-vehicle devices. This data aids insurance companies in assessing driver profiles and calculating annual premiums, with added fuzzy logic for enhanced behavior determination.

AI Powered Game | Reinforcement Learning

- Creating a tik tak toe game with an AI player based on reinforcement learning.

Google Apps Categorizing | Data Analysis

- Analysing and cleaning of data using methods such as Principal Component Analysis (PCA) and classification.

PROFESSIONAL SKILL

Data Analysis and Machine Learning K-Means clustering, PCA, Fuzzy Logic, Deep learning Models (MLP, CNN, RNN)

Programming C, C++, Python, Java, Bash, VHDL, SQL, HTML, CSS, JAVAScript, Streamlit, Angular

Image and Signal Processing Time-frequency analysis techniques like Short-Time Fourier Transform (STFT) Image Filtering Techniques (Median filtering, Gaussian filtering), Image enhancement and correction

Development Tools and libraries Visual Studio Code, Jupyter, Conda, Git, Android Studio, h5py, Scikit-learn, Tensorflow, Keras

LANGUAGES

- Arabic (Native Speaker)
- English (Fluent)
- French (Fluent)
- German (Basic)

CERTIFICATIONS

- Neural Networks and Deep Learning (2022)
- Digital Marketing (2022)