Gerard Caravaca Ibañez

AI Engineer

Profile

With a Master's in AI from Catalonia's top universities and experience in deep learning research and startup development, I'm poised to contribute significantly to AI advancements. My background combines academic rigor with practical tech application, making me an ideal candidate for roles requiring innovation and expertise in AI.

Employment History

Deep learning research at SISCOM research department of UPC, Barcelona

February 2023 — Present

Development of deep learning models for the recognition of human activity through movement sensors. With the aim of developing an analysis tool (MobilitApp) for improving urban mobility in the city of Barcelona.

Responsibilities:

- State-of-the-art analysis of the transport mode recognition task, with the aim of finding the most robust techniques.
- Combination of recent deep learning techniques (RNN, CNN) with traditional techniques such as frequency analysis using the Fast Fourier Transform (FFT).
- Creation and maintenance of a multimodal trips dataset for the metropolitan area of Barcelona.
- Development of an Android application for automatic data collection and testing of human activity recognition system.
- Constant communication with the testing team as well as with the companies interested in the project, such as Metropolitan Transportation Authority (ATM) and UPC Sostenible.
- Achieved the reduction of the application size from 500MB to 30MB by quantization of the machine learning models.

Tools:

Python - R - TensorFlow - PyTorch - Numpy - Scikit-learn - Pandas - Andorid Studio - Kotlin - TensorFlowLite - Github - LaTeX

Full stack developer at Blava, Healthy spaces, Barcelona

February 2022 — June 2022

Back end and front end development of a website for the management and analysis of environmental data from sensors, for subsequent comparison with the sustainability objectives of miagenda2030.

Responsibilities:

- Responsible for the optimization of a target management system for Spanish public entities.

Details

Barcelona
Spain
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Links

Linkedin
Portfolio
Master thesis
Published article

Skills

Highly adaptable

Effective Communication

Innate Motivation

Team Collaboration

Responsibility and Organization

Independent Learning

Problem-Solving

Languages

Spanish - Native

Catalan - Native

English - C1

- Define the system architecture in a robust and efficient way.
- Implement each UI Component with clean and scalable code. This includes paying attention to accessibility and following best practices.
- Assist and actively participate in meetings, whether from the Product team or the Implementation team.

Tools:

Laravel - Vue.js - SQL - Github - Postman - Figma - Jira

Research Intern at Hospital Clínic de Barcelona, Barcelona

January 2022 — June 2022

Development of my degree thesis in the creation of a system for analysis and representation of cancer and pollution data in Europe. The ultimate intention of the project is to demonstrate that air pollution causes increased lung cancer mortality.

Responsibilities:

- Study of the field of lung cancer medicine and its integration of advanced statistics for the study of correlations.
- Constant contact with the best doctors specialized in the field in a hospital medical team. With the intention of adjusting the system to the requirements of the medical team.
- We successfully developed a system with a dashboard interface which has been used for the development of a published article.

Tools:

Pyhon - Dash Plotly - Scikit-learn - Pandas - MongoDB - Github

Education

Computer Science, FIB Faculty of Computer Science of Barcelona, Barcelona

September 2018 — June 2022

- High computing modality.
- Focus on Artificial Intelligence, Algorithmics, Computer Logic, and Computer Graphics.
- Average mark: 8.15.
- Honors in Probability and Statistics.

Master's Degree in Artificial Intelligence, FIB Faculty of Computer Science of Barcelona, Barcelona and Tarragona

September 2022 — January 2024

- Focus on Deep Learning, Reinforcement Learning, Computer Vision and NLP.
- Average mark: 8.6.
- Courses entirely in English.

References

References available upon request