Mario Hevia Fajardo

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Summary

AI Research Fellow with a robust background in machine learning, deep learning, and AI research, holding a PhD in Computer Science and an MSc in Data Analytics. Experienced in developing machine learning models, data pipelines, and interactive visualisations. Developed a Python-based data science project utilizing Streamlit, Pandas, Altair, PostgreSQL with PostGIS, and integrated an LLM for natural language database queries. Published in leading AI journals and collaborated internationally, including with MIT. Looking to apply my skills in machine learning and data analysis to solve practical problems in a data science role.

Featured Project

Geospatial Crime Data Analysis and Visualisation – (Feb 2025 – Present)

https://github.com/mariohevia/crime_data_uk | *https://crimedatauk.streamlit.app/*

Developed an interactive platform using Python to visualise and analyse geospatial crime data across the UK.

• Utilised publicly available crime data from England, Wales, and Northern Ireland, storing and querying it using PostgreSQL with PostGIS.

• Built an ETL pipeline to extract crime data, transform it, and load it into PostgreSQL.

• Includes a natural language chat interface using an LLM with RAG to query structured data from PostgreSQL.

Experience

Research Fellow (Mar 2022 – Mar 2025)

University of Birmingham, Birmingham, United Kingdom

Conducted research on competitive coevolutionary algorithms for adversarial optimisation, offering an alternative to RL.

• Published seven papers in top journals/conferences, including three collaborations with MIT.

• Presented research at leading conferences and seminars, including tutorials at IEEE WCCI and PPSN.

• Program Committee Member for UK AI Conference 2023 (Alan Turing Institute) and GECCO 2023–2025.

Graduate Teaching Assistant (Jan 2019 – Dec 2021)

University of Sheffield, Sheffield, United Kingdom

Assisted with lecturing, grading, and tutoring for MSc and undergraduate modules: Advanced Algorithms (Autumn 20/21), Scalable Machine Learning (Spring 19/20, 20/21), Introduction to Algorithms and Data Structures (Spring 18/19, 19/20).

Field Service/Project Engineer (Jan 2015 – Sep 2017)

Festo, Mexico, Mexico

Led the commissioning of high-complexity automation projects for major clients.

• Developed national programming standards for Festo PLC and HMI, adhering to IEC 61131-3.

• Played a key role in establishing commissioning procedures for software-integrated projects.

• Designed and implemented automated quality control systems using computer vision.

Technical Skills

Programming Languages: Python, SQL, R, Spark(Scala), C++

Libraries & Tools: Pandas, NumPy, Scikit-learn, NLTK (NLP), LangChain (LLM), OpenCV (Computer Vision), Git, Docker

Deep Learning Frameworks: Jax, TensorFlow, PyTorch

Education

PhD in Computer Science (Jan 2019 – Mar 2022)

University of Sheffield, Sheffield, United Kingdom

MSc in Data Analytics – Distinction (Sep 2017 – Aug 2018)

University of Sheffield, Sheffield, United Kingdom

BSc in Mechatronics Engineering (Aug 2010 – Dec 2014)

Monterrey Institute of Technology and Higher Education, Mexico, Mexico

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Certifications

PostgreSQL Essential Training – PostgreSQL, LinkedIn, Mar 2025

Fit for Leading Leaders – Management, Festo, July 2017

Managing Talent – Management, University of Michigan, November 2015

 Inspiring and Motivating Individuals – Management, University of Michigan, October 2015