

# Alessandro Abati

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**Data Scientist** and AI Developer Expert Focused on **Generative AI** and Advanced Analytics.

## EDUCATION

### City, University of London

*MSc Artificial Intelligence*

Score: 1

*London, United Kingdom*

### University of Florence

*Bachelor of Physics and Astrophysics*

Score: 2:1

*Florence, Italy*

## EXPERIENCE

### BIP Consulting | Data Analyst | Milan

Jan 2022 – Aug 2023

- Analysed data structures and orchestrated automatized data cleaning pipeline, increasing administrative **data quality** by **26%** in the given time frame.
- Designed a long-lasting **data strategy** framework, collaborating with Data Office Head and various stakeholders.
- Led a team to analyse the database through SQL queries, optimize data model and implement **data cleaning pipeline** for a successful legacy migration.
- Developed internal **audit** process for Data Governance improvements. Analyzed **data life-cycle** and provided critical insights for enhancing data quality.

### Dissertation Research | Physics Data Analyst | CERN, Geneve

Oct 2019

- Studied and implemented a machine learning DNN model to classify physics events associated with Higgs boson production in CMS experiment at LHC, and distinguish them from the main background events through optimization of signal region selection.
- Introduced a Bayesian approach to hyperparameters optimization for the first time in the research team.

## PERSONAL PROJECTS

### Abstractive Text Summarization with Fine-tuned LLM Model | PyTorch, HuggingFace, Python, ETL, OOP

- Created a robust ETL data pipeline for data preprocessing (tokenization, statistics extraction) and ingestion
- Fine tuned a BERT model (LLM) to produce relevant summaries from news and articles. Adapted the BERT transformer model to fit the task through employment of expressive embeddings and adaptive loss function

### Bayesian Optimizer with Gaussian Process Regression | Python, NumPy, scipy, Matplotlib, OOP, Git/GitHub, VS Code

- Created a robust and well-structured code-base for Bayesian Optimization using Gaussian Process Regression modeling
- Expertly employed concepts such as mean and covariance functions, negative log-likelihood loss, and acquisition functions to guide the optimization process efficiently

### BingAI Voice Assistant with FaceID Login | Python, speech-recognition, Amazon Polly (AWS), face-recognition, EdgeGPT API

- Leveraged expertise in speech and facial recognition, text-to-speech synthesis, and AI chatbot integration to develop an all-encompassing voice assistant solution. Also, designed a secure FaceID login system using facial recognition for personalized user authentication
- Developed a modular code-base that supports feature expansion and customization, fostering community contributions to drive collaborative development and enhancements

### Online Shoppers Purchasing Intention Prediction | Pandas, EDA, scikit-learn, Keras, TensorFlow, Keras Tuner

- Examined the use of advanced Artificial Intelligence (AI) techniques to predict purchase likelihood on an e-commerce platform.
- Analysed a dataset rich in both numerical and categorical metrics of user interactions, applying machine learning algorithms such as Decision Trees, Random Forests, and Neural Networks to identify patterns indicative of purchasing behavior

## KEY SKILLS

**Programming languages:** Python, SQL, C

**AI frameworks and libraries:** PyTorch, Keras, TensorFlow, Hugging Face, Scikit-Learn, NLTK

**Soft skills:** Problem solving, Project management, Team working, Communication

## LANGUAGES

**Italian:** Native

**English:** Fluent (IELTS Band 7)