Davide Bassan, M. Sc.

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Employment History

2023 – Present
Freelance Researcher, University of Padua (Prof. Martino Grasselli)
I have developed one of the largest available datasets for the art market, compiling and structuring extensive data on artists, artworks, and transactions. My work focuses on applying Artificial Intelligence and data analytics to establish objective price estimates for artworks, leveraging machine learning models and knowledge graphs to analyze market trends and valuation metrics. This project aims to bring transparency and data-driven insights to the art market.

Apr 2021 – Aug 2021
Intern, Chiron s.r.l.s., Venice, Italy
During my 4-month internship at Chiron s.r.l.s., a company specializing in Artificial Intelligence applications, I contributed to the development of a robust backend system incorporating Redis caching to optimize performance. I was responsible for ensuring the proper functioning of Sirio, an AI-powered assistant designed to monitor websites where the company's plugin was installed.
Sirio collected user interaction data and transmitted it to BigQuery, where it was stored for further analysis. To process and extract meaningful insights from this data, I implemented Apache Spark, enabling efficient big data processing and providing e-commerce owners with accurate and actionable statistics. This experience allowed me to deepen my expertise in backend development, data processing, and AI-driven analytics.

Education

Oct 2022 – Apr 2025
Master's Degree in Computer Science, University of Padua
Final Grade (expected): 100/110
Thesis: *A Data-Driven Approach to Art Price Prediction: Integrating Knowledge Graphs and Predictive Analytics*

Oct 2018 – Mar 2022
Bachelor's Degree in Internet Of Things, Big Data & Web, University of Udine
Final Grade: 92/110
Thesis: *Robot per l'esplorazione di ambienti*

Skills

Languages	English – **B2 Cambridge Certification (2022)**
Programming Languages	Python, TypeScript, JavaScript, LaTeX, PHP, HTML, CSS
Machine Learning & AI	Deep Learning, Reinforcement Learning, Computer Vision, NLP, TensorFlow, PyTorch, Scikit-Learn
Big Data & Cloud Computing	Apache Spark, Google BigQuery, Redis, MongoDB, PostgreSQL, MySQL
Automation & Web Scraping	Selenium, BeautifulSoup, Requests, GraphGL
Backend Development	Node.js, FastAPI, REST APIs, Microservices

Skills (continued)

Miscellaneous	Knowledge Graphs, Trading Algorithms, AI for Art Market Analysis, Data Engineering

Miscellaneous Experience

Projects

2021 – Present

Automated NFT Trading Bot
Developed an advanced automated trading bot for NFT marketplaces, designed to place bids and execute transactions based on real-time market conditions. The bot integrates machine learning models for price prediction and sentiment analysis, enhancing decision-making strategies.

2023 – Present

Ardu Garden: IoT-Based Smart Hydroponic System
Working on Arduino, 3D Printing, Gardening, and IoT, this project implements a hydroponic garden system controlled via Arduino. The entire structure is 3D-printed and automates irrigation and plant lighting. **Key features include:**

- **Automated Irrigation System**: Controls water flow and nutrient delivery based on sensor data.
- **Smart Lighting Control**: Adjusts plant lighting dynamically to optimize growth conditions.
- **Web Interface**: Enables remote monitoring and control of the system.

2022 – 2022

Lip Reading AI: Silent Speech Recognition with Deep Learning
Using the **MIRACL-VC1** dataset and the **Keras** library, I tackled the main problem by implementing a **Convolutional Neural Network (CNN)** model. The CNN was trained to automatically extract salient features from video frames, leveraging its ability to learn complex visual patterns.
Subsequently, I employed a **Recurrent Neural Network (RNN)** architecture to process the features extracted from the CNN and predict words or phrases from the input video.
Key aspects include:

- **Feature Extraction**: CNN trained to learn discriminative lip movement patterns.
- **Sequence Processing**: RNN model interprets temporal dependencies between video frames.
- **Data Augmentation**: Techniques applied to increase training sample variability, improving generalization and reducing overfitting.

Miscellaneous Experience (continued)

2024 – 2024

Image Denoising AI: Enhancing Medical Image Quality with Deep Learning
This project explores various deep learning techniques for noise reduction in medical images. It utilizes Convolutional Neural Networks (CNNs) and Autoencoders to enhance image clarity and improve diagnostic accuracy.
Key aspects include:

- **Noise Reduction**: Application of CNNs and Autoencoders to remove artifacts and improve image quality.
- **Medical Imaging Focus**: Enhancing diagnostic precision by reducing noise in X-ray, MRI, and CT scans.
- **Optimized Training**: Fine-tuned models on large-scale medical datasets to ensure robust generalization.

Awards and Achievements

2017 – 2018

National Finalist, RoboCup Junior – Rescue Line Category
Advanced to the national phases of the RoboCup Junior competition in the Rescue Line category. The competition involved designing, programming, and optimizing an autonomous robot to navigate complex terrains and perform rescue operations using computer vision, sensors, and path-planning algorithms.

References

Available on Request