

MATTIA LIMONE

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PROFILE

As a computer science student with a focus on data science and machine learning, I am well-versed in programming languages such as Python and R, as well as in machine learning algorithms and techniques. In addition to my technical skills, I am highly organized and able to manage multiple tasks and projects at once. I am enthusiastic about learning and tackling new projects in the field of data science and machine learning. I am eager to expand my knowledge and develop my skills in these areas.

As I near the completion of my studies in 2023, I am actively seeking opportunities for a research science internship or a full-time job in the field. I am open to opportunities both locally and internationally and I am available to travel. I am excited to contribute with my skills and knowledge and help drive innovative solutions through data-driven insights.

EDUCATION

Master of Computer Science, University of Salerno

2021 - Expected 2023

Thesis: *"Heuristic based Probabilistic Transformer for Entity Matching"*

Relevant Coursework: *Data Science, Machine Learning, Artificial Intelligence, Natural Language Processing, Artificial Vision and Biometry, Software Engineering for Artificial Intelligence, Statistics and Data Analysis*

Erasmus + Programme, student exchange program, University of Ljubljana

Relevant Coursework: *Digital Design, Machine Perception, Parallel and Distributed Systems and Algorithm*

Erasmus + Programme, student exchange program, Polytech Aix-Marseille

Relevant Coursework: *Statistics, Data analysis, Database*

Bachelor of Computer Science, University of Salerno

2018 - 2021

Final mark: *102/110*

Thesis: *"Web Application for Personnel Management: A Case Study at the Salerno Fire Department Provincial Command"*

Relevant Coursework: *Object Oriented Programming, Distributed Programming, Statistics and Probability, Theory of computation, Operational Research, Software Engineering, Algorithms, Data Structures*

TECHNICAL SKILLS

Programming Languages

C, Python, R, PHP, SQL, Javascript

Frameworks

Tensorflow, PyTorch, CodeIgniter, Symfony, React Native

IDE

Visual Studio, PhpStorm, PyCharm, RStudio

Libraries

Keras, Pandas, NumPy, Matplotlib, Scikit-learn

OS

Windows, FreeBSD, Ubuntu, OpenWrt

EXPERIENCE

Web Developer

Set 2019 - Feb 2020

Hirooks

Fisciano, 84084, SA, Italy

- Web App development using Symfony and Codeigniter frameworks
- Achieved a good knowledge of React Native and PHP

PROJECTS

Heuristic based Probabilistic Transformer for Entity Matching This research proposes a probabilistic Transformer model to solve the problem of redundant embeddings. The use of a Gaussian Mixture Model, which makes use of the attention score as a posterior distribution, allows the model to focus on different parts of the input sequence efficiently. The use of a heuristic layer, specific to the Entity Matching task, eliminates the noise generated by certain portions of text, accelerating training and requiring fewer parameters and FLOPs.

Github repo: **Ongoing research**

DNN-HMM system for Speaker Identification This research introduces a new method for text-independent speaker identification using a combination of convolutional and Long-Short-Term-Memory (LSTM) networks. This approach extracts both high-level features from the entire audio and frame-specific temporal features, which are used to predict the emission probabilities of a Hidden Markov Model (HMM). This method outperformed current state-of-the-art techniques on the TIMIT dataset with an accuracy of 98.52%.

Github repo: github.com/MattiaLimone/dnn-hmm

QuProBert A BERT-based model developed for query-product classification during Amazon KDD 2022, which was trained on customer queries and product information. This model accurately classifies in the 74.1% of cases the product given a query into ESCI categories, improving customer experience by providing relevant search results and also benefits businesses by understanding customer needs.

Github repo: github.com/MattiaLimone/QuProBert

Food Demand Forecasting In this project, I tested various ensemble learning techniques and obtained a 3% improvement over other proposed solutions. The results of this project have the potential to significantly improve the efficiency and profitability of food production and distribution for businesses.

Kaggle notebook: kaggle.com/code/mattialime/food-demand-forecasting-r2-0-883

Command and Control Centre A Web App based on CodeIgniter 4 to manage operational and administrative staff of Salerno Fire Department. It offers user-friendly tools for managing daily tasks, teams, vacation and sick leave. The application allows administrative staff to efficiently manage the operators of the Salerno provincial command through a straightforward interface.

[Commendation from Fire Department Commander](#)

Github repo: github.com/MattiaLimone/ccv-vvf

LANGUAGE

	UNDERSTANDING		SPOKEN		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C1	C1	B2	B2
French	B2	B2	C1	B2	B2

EXTRA-CURRICULAR ACTIVITIES

Red Cross Volunteer Management and preparation of food parcels, assistance and support in vaccination centers during the COVID-19 emergency, health support at events.

SOFT SKILLS

- **Leadership** Through my studies, particularly in the "Fundamentals of Computer Vision and Biometrics" course, I have developed strong soft skills such as group management, decision-making, problem-solving, and working with new people.
- **Problem solving** Group and research projects improved my ability to analyze and solve problems, while coding and programming enhanced my logical thinking and problem-solving skills. As a result, I am better equipped to find innovative solutions and approach challenges with a sense of assurance.
- **Adaptability** Adapting to unforeseen changes and being receptive to diverse viewpoints have enhanced my ability to solve problems effectively. Additionally, my academic experience has taught me to be flexible and adjust my work style to meet the specific requirements of any project or team.
- **Effective communication** Public speaking presentation and leading group project have definitely improved my ability to communicate effectively with others, to actively listen, to express my thoughts clearly, and to adapt my communication style to different audiences.
- **Empathy** Get in touch with less fortunate families and giving them assistance during my work as Red Cross volunteer has definitely improved my ability to empathize with other people, to listen, to not judge anybody and to be open-minded.

CERTIFICATIONS

- **French B2 - University of Salerno**
- **First Aid and CPR - Red Cross CAM/2021/CRI/451/13**

PERSONAL INTEREST

I am generally a sporty person, I have been practicing skiing since the age of 4, and lately thanks to some colleagues I have gotten into hiking. I am a big F1 fan, I couldn't imagine missing a grand prix.

Signature
