Matteo Mugnai

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Experience

AI Engineer Intern - 3E informatica   Feb 2025 – Apr 2025

Designed, developed, and tested two AI-driven applications leveraging Large Language Models (LLMs):

- HR AI Application: automate the entire HR workflow, including job offer creation, CV screening and interview scheduling.
- Health Assistant Application: Developed a real-time voice-enabled virtual assistant about general health. Integrated LLM-driven research with text-to-speech (TTS) and speech-to-text (STT).

Teaching Assistant - Polytechnic University of Turin   Oct 2024 -Feb 2025

- Provided teaching support to first-year students (230 ~total) of the course "Computer Science" during their Python problem solving sessions.

Backend developer - Mu-Nu chapter of IEEE-HKN   Oct 2023 – Feb 2025

- As an inducted IT member of IEEE honors society, I contribute to the backend development of a web-app that manages the recruiting process. Worked on an API server using TypeScript, Nest.js, unit testing and e2e testing.

Education

Polytechnic University of Turin, BS in Computer Engineering   2022 – 2025

- **Honors program:** engaged in a specialized program designed for the top 200 engineering students (<5%), offering scholarship and in-depth multidisciplinary courses.
- **University team:** CPPolito. Competitive programming team, participating in contests and undergoing continuous training to enhance algorithmic and problem-solving skills.

Projects

RL Car Navigation from scratch   GitHub Repo Link

- Reinforcement Learning agent for autonomous driving. Built in C++, without any Machine Learning library..
- Technology: C++.

Facial Expression Recognition   GitHub Repo Link

- Convolutional Neural Network (CNN) to recognize emotion categories from facial images.
- Technology: Python, PyTorch, Matplotlib, NumPy.

Heart Disease Detection   GitHub Repo Link

- The project aims to detect the presence of heart disease in patients, comparing the performance of several models.
- Technology: Python, scikit-learn, XGBoost, Pandas, Matplotlib, NumPy.

GPT model   GitHub Repo Link

- Guided project to learn how GPT works. I built a fully functional GPT model from scratch.
- Technology: Python, PyTorch, NumPy.

Kaggle competitions

- Participated in Kaggle 'Knowledge' competitions applying ML, DL, and data manipulation techniques.
- Technology: Python, scikit-learn, XGBoost, TensorFlow, keras, Pandas, Matplotlib, NumPy.

Skills

Programming languages: C, C++, Python, SQL, TypeScript, Java, JavaScript, C#, HTML, CSS, Matlab.

Technologies: PyTorch, Scikit-learn,Node.js, Git, Microsoft Azure, Oracle, Algorithm, Data Structures, Excel

Soft skill: Communication, Teamwork, Flexibility, Initiative,Problem Solving, Adaptability, Agile

Languages: Italian: mother tongue; English: fluent (IELTS 6.5).