DOMINGO RANIERI

CONTACTS

✉ domiran98@gmail.com

○ domingoran (github.com)

TECHNICAL SKILLS

Operating system: Windows, Linux

Programming languages: C++, Python, SQL, R, Haskell, Bash.

Framework: NumPy, Pandas, Matplotlib, Scikit-learn, TensorFlow, Keras, Pytorch.

Web development: HTML, CSS, Javascript, ReactJS, Flutter Web.

Other: Git, VS code, Docker, Tableau, Excell, Google sheets.

TRANSVERSAL SKILLS

Complex problem solver

Team worker

Fast learner

Empathy

Communication

Organizzational skill

Adaptation and flexibility

LANGUAGES

English: B2

Italian: Mother tongue

SUMMARY

Master's student in Physics with a passion for Artificial Intelligence. As a Data Scientist, I am skilled in data analysis and statistical modelling. Having more than three years of experience working with Python, I am adept at building predictive models and visualizing data. I have experience with machine learning algorithms such as linear regression, classification and clustering. Additionally, I have experience with data visualization tools such as Matplotlib and Tableau. With strong problem-solving skills and the ability to work independently or as part of a team. Adept at communicating insights to technical and non-technical stakeholders. I am excited to contribute to a data-driven organization as a Data Scientist.

EDUCATION

University of Bologna, Sep 2020-Dec 2022
Master's degree in theoretical physics.

- Graduated with 110/110 with honors.
  Average degree: 29,9/30
- Thesis title: Simulation of a neuromuscular control using a quantum computer.
  Supervisor: Prof. Elisa Ercolessi
  Co-supervisor: Dr. Giorgio Davico,
  Dr. Claudio Massimiliano Sanavio
- In the thesis I used D-Wave technologies to perform quantum annealing and find the best solution to an optimization problem of neuromuscolar control.

University of Bologna, Sep 2017-Jul 2020
Bachelor in physics.

- Graduated with 110/110 with honors.
  Average degree: 29,7/30
- Thesis title: Fractal Universe model and Cosmic Acceleration.
  Supervisor: Prof. Alexandr Kamenchtchik
- In the thesis I studied a model of the Universe with a fractal distribution of matter. The main objective was to express the cosmic acceleration as a function ot this distribution, avoiding theintroduction of dark energy.

COURSES AND CERTIFICATIONS

Coursera, Jan-Feb 2023
Google Data Analytics Professional Certificate

University of Bologna, Jul 2022
Summer school: Quantum Sensing, Information
processing and Computing

Santa Fe Institute, Sep 2020
Complexity explorer

PROJECTS

- **AUDIO MNIST CLASSIFICATION USING CNN**: I used a CNN to classify MNIST audio clips. At first I compute the spectrogram of each audio and then I used them to train the model. At the end I evaluate the performance of the model obteining 95% of accuracy. (Numpy, Pandas, Librosa, Tensorflow, Keras)
- **COMPARATIVE STUDY ON CLASSIFICATION ALGORITHMS**: Simple project to compare different models. After some preprocessing steps, I used GreadSearch and cross validation to study the performance of the models. Then I use a Neural Network to execute the same classification and compare the results. (Numpy, Pandas, Sklearn, Tensorflow, Keras)

- **COMPLEX NETWORK:** We studied some applications of Ricci curvature and Ricci Flow on networks, such as community detection and diffusion. Made for the course "Complex Network", University of Bologna A.Y. 2021/2022. (Networkx, Numpy, Pandas)

- **COMPLEX SYSTEM:** Starting from the Game of Life model, I developed a probabilistic cellular automaton studying the phase transition between different complexity classes. Made for the course "Complex Systems", University of Bologna A.Y 2021/2022. (Numpy, Matplotlib

 (The title of each project is linked with the relative code)