

Davide Mascolo

Date of Birth: 12/01/2000

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PROFESSIONAL EXPERIENCES

Mar. 2023 – May. 2023

Role: Location Intelligence Analyst - Internship.

Company: Jakala S.p.A.

Location: Rome

Key Responsibilities:

- Consulting and development for the pharmaceutical company Zambon Brasil S.p.A.
- Implementation of a Machine Learning predictive model for the quantities of pharmaceutical products to be allocated to points of sale.
- Development of the predictive model through data integration techniques and performance metrics.

Tools: Python, Virtual Machines, Cloud Environment, ArcGIS Pro.

Start Date: 2023/13/03

End Date: 2023/05/05

May. 2023 – Oct. 2023

Role: Bioinformatics Researcher (Master's Thesis)

Company: Sapienza Università di Roma

Location: Rome

Key Responsibilities:

- Integration of genomic and transcriptomic data, through the use of multilayer networks, for checkpoint inhibition in the immunotherapy response in patients with NSCLC (Non-Small Cell Lung Cancer).

Tools: Python, R.

Start Date: 2023/07/05

End Date: 2023/11/09

Oct. 2023 – May. 2024

Role: Data Scientist - Internship

Company: Hoffmann-La Roche

Location: Basel, Switzerland

Start Date: 2023/10/01

End Date: 2024/03/31

Key Responsibilities:

- Implementation of Generative Ai through Python for modeling clinical data to be used for test development, following the CDISC (Clinical Data Interchange Standards Consortium) protocol.

Tools: Python, Cloud Environment, Git.

Other Activities: Technical support within the Data Science department, relating to topics in the field of ML and IT.

Team: Neuroscience

Role: Data Scientist | Bioinformatics - Internship

Key Responsibilities:

- Improvement of the cloud platform through R and GCP (Google Cloud Platform).
- Development of data science methods to support IT projects in Python.
- Support for predictive models based on spectroscopic data.

Tools: Python, Cloud Environment, Git.

Start Date: 2024/04/01

End Date: 2024/05/31

Team: Analytical Development

Dec. 2024 – On Going

Role: Data Scientist | Bioinformatics

Company: National Cancer Institute – Regina Elena

Location: Roma

Key Responsibilities:

- NGS (Next Generation Sequencing) analysis using machine learning techniques in cancer research.
- Design and perform bioinformatic analyses to detect genetic and transcriptional alterations.
- Use advanced machine learning and statistical analysis techniques to integrate and interpret complex and heterogeneous datasets.
- Collaborate with oncologists, biologists, and data scientist to develop evidence-based biomarkers and targeted therapeutic strategies.

Tools: Python, R, Cloud Environment, Git.

Start Date: 2024/12/01

End Date: In Corso

Team: Clinical Trial Center (CTC) - Biostatistics e Bioinformatics

EDUCATION

Nov. 2024 – On Going

Ph.D. Data Science, Sapienza University of Rome (Italy).

Research Activities:

- Development of advanced computational methods for the integration of molecular data.
- Precision medicine for complex diseases.
- Network medicine applied to oncology.

Sep. 2021 – Oct. 2023

Master's Degree in Data Science, LM-91, Sapienza University of Rome (Italy).

Main Exams:

- Statistical Methods
- Algorithmic Methods
- Statistical Learning
- Advanced Machine Learning (Computer Vision)
- Neural Networks
- Data Management
- Digital Epidemiology and Precision Medicine
- Bioinformatics and Network Medicine.

Thesis: *Integrating Genomic and Transcriptomic data of checkpoint blockade response in Non-Small Cell Lung Cancer through Multilayer Network Modelling* (Tutor Prof.ssa Manuela Petti).

Sep. 2018 – Sep. 2021

Bachelor's Degree in Statistics for Big Data, L-41, University of Salerno (Italy).

Thesis: *Machine Learning for Fraud Detection* (Tutor Prof. Pietro Coretto).

Sep. 2013 – Jul. 2018

Scientific Diploma.

High School Enrico Medi, Cicciano (NA).

PUBLICATIONS

1. Petti Manuela, Mascolo Davide, Alfano Caterina, and Farina Lorenzo: “**A new method for patient stratification based on multi-layer network modeling and molecular data integration.**”
Date: 15-19 July 2024
Workshop: IEEE Engineering in Medicine and Biology Society (EMBS)
Type of Work: Poster 1 page **Location:** Orlando, Florida.
2. Mascolo Davide, Farina Lorenzo, and Petti Manuela: “**Multi-layer network modelling of genomic and transcriptomic data to investigate the response to checkpoint inhibitors in NSCLC**” (Master’s Degree Thesis)
Date: 2023/12/05
Workshop: IEEE International Conference on Bioinformatics & Biomedicine (BIBM)
ISBN: 979-8-3503-3748-8
DOI: 10.1109/BIBM58861.2023.10385375
Index on Scopus
3. Mascolo Davide, Plini Leonardo, Pecchini Alessandro, and Antonicelli Margaret: “**The use of magnetic resonance images for the detection and classification of brain cancers with D-CNN.**”
Date: 2023/04/28
Workshop: Statistics and Data Science Conference 2023 – Pavia University.
ISBN: 978-88-6952-170-6

CONFERENCES

1. **Workshop: IEEE – Engineering in Medicine and Biology Society (EMBS)**
Date: 15-19 July 2024.
Location: Orlando, Florida.
Type of Work: Poster 1 page
2. **IEEE – International Conference on Bioinformatics and Biomedicine (BIBM)**
Date: 5-8 December 2023.
Location: Istanbul, Turkey.
Attendance: Online
3. **Aiquav Conference - September 2023** Mascolo Davide, Plini Leonardo: “**Modular Neural Networks for detection and classification of brain cancer images.**”
Attendance: Online
4. **Aiquav Conference - September 2023** Plini Leonardo, Mascolo Davide: “**Machine Learning techniques for Hydroponic Cultures.**”
Acknowledgment: Award Certificate, best scientific Contribution Under 35.
Attendance: Online

LANGUAGES & SKILLS

Italian: Native Speaker

English: Professional

Office Package: Excellent.

Software: R, Python, MySQL, SAS, Neo4J, Anaconda.

Libraries and Frameworks: R (Dplyr, Tidyr, GGplot2, Tseries, GGmap, Caret, BioConductor, Knitr, RMarkdown)

Python (Tensorflow, Numpy, SciPy, Pandas, Matplotlib, Seaborn, Keras, SciKit-Learn, PyTorch)

Other Skills: Machine Learning, Deep Learning, Data Analysis, Data Visualization, Big Data, Leadership, Data Integration, Survival Analysis, CDISC Data Standard, Clinical Trial.

OTHER ACTIVITIES

Sep. 2022 **Training Camp by Leonardo and the Leonardo Labs**

Task: Classification of real images using computer vision models.

Jul. 2022 **Hackaton in Statistical Learning**

Jul. 2025 **Lipari School on Computational Life Sciences**

RNA Biology and Comparative Genomics for Medicine

INTERESTS & SOFT SKILLS

INTEREST: Sport, TV Series, Music.

SOFT SKILLS: Aptitude for teamwork, ability to adapt and solve problems, excellent organizational approach.

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