

Ruggero De Vita

Senior Data Scientist, PhD



Solid analytical background, programming proficiency and presentation skills. Proven track record in successfully applying modern machine learning solutions to a variety of industrial and academic applications.

Professional Experience

Senior Data Scientist

tiko Energy Solutions



Mar 2022-present



Milano, Italy

- In the context of operating virtual power plants to stabilise the electrical grid, I contribute to the design and development of forecasting algorithms for the prediction of power consumption (1 sec frequency Time Series) for a pool of 150000+ residential electric heaters.
- Models rely on deep learning algorithms (Recurrent Neural Networks with multiple LSTM layers) and gradient boosting frameworks (LightGBM, XGBoost)
- Maintenance of the data pipeline requires in-depth knowledge of high-level tools suited for production (e.g. mlflow, Airflow, Kubernetes, Timescale).

Senior Data Scientist Consultant

Ernst & Young



Nov 2021-Mar 2022



Milano, Italy

For a Manufacturing company:

- Development of a Random Forest Regressor for the prediction of the optimal price of cooling and refrigeration systems based on past transactions, properties of the market, and technical specifications
- Model interpretation through Shapley values and root cause analysis through decision trees' visualisation tools

Data Scientist Consultant

Capgemini Engineering



Jun 2019-Nov 2021



Milano, Italy

For a Major Electrical company:

- Development of machine learning models (artificial neural network - multilayer perceptron) for the predictive maintenance of electrical assets with regard to external disruptive factors such as ice formation on conductors or vegetation growth.
- Backend support for a dashboard to monitor key performance indicators related to asset degradation and anomaly detection (forecasting with additive models using Facebook's Prophet)
- Extensive time series analysis - linear and auto regressive models.

For a Major Telecommunication company:

- Training and deployment of a machine learning model (Random Forest Classifier) to evaluate the risk of customers to miss the payment of recurrent invoices
- Software development and engineering in BigData frameworks (ApacheHadoop & PySpark), relying on Cloud facilities (AWS), versioning tools and testing practices



20090, Buccinasco (MI), Italy



+39 340 5931146



ruggero.devita@gmail.com



[ruggerod.github.io](https://github.com/ruggerod)

Core skills

- **Problem Solving:** Machine Learning · Advanced Analytics · Statistical Analysis · Business Insights · Model Explainability · Project Management
- **Programming:** Cloud Computing · Code Versioning & Testing · Parallel Computing
- **Presentation:** Written (Scientific Publications) · Oral (Public Talks and Teaching Experience) · Data Representation
- **SOFT:** Detail Oriented · Driving Results · Teamwork · Critical Thinking · Resiliency · Leadership

...



Technical tools

- **Python:** pandas · numpy · matplotlib · seaborn · scipy
- **Machine Learning libraries:** scikit-learn · tensorflow · keras · mlflow · skforecast
- **Machine Learning models:** K-means · Random Forest · XGBoost · ANN (Autoencoder) · RNN (LSTM) · LightGBM
- **Database:** PostgreSQL · Timescale
- **Orchestration:** Airflow · Docker · Kubernetes · slurm
- **Big Data:** PySpark
- **Version Control:** Git, GitHub, GitLab
- **IDE:** PyCharm · Jupyter
- **Cloud:** AWS
- **Front End:** Django · JavaScript · HTML · React

...

Languages

Italian (Native)
English (Proficient)

...

Interests

Boardgames
Travel Video

Education

2016-2019 **Doctor of Philosophy** (Astrophysics);
The University of Melbourne; [Testamur](#)
2012-2015 **Master of Science** (Physics);
Università degli studi di Milano; 110/110 cum laude
2008-2012 **Bachelor of Science** (Physics);
Università degli studi di Milano; 100/110

Honours and Awards

2017-18 Travel Grants (tot. 5,000 AUD)
2016 [ND Goldsworthy Scholarship](#) (21,000 AUD in 3.5 years)
2015 Melbourne Research Scholarship (100,000 AUD in 3.5 years)
2015 [Angelo della Riccia](#) Travel Scholarship (5,500 EUR)

International Research Visits

Oct 2017 **HARVARD** visiting researcher (2 months), Cambridge (MA)
Mar 2016 **CAMK** visitor (1 week), Warsaw (POL)
Jan 2016 **MPIA** visitor (4 months), Heidelberg (GER).

Certifications

Oct 2020 [Spark and Python for Big Data with PySpark](#) by Udemy
Feb 2018 [Neural Networks and Deep Learning](#) on Coursera
Oct 2017 [Machine Learning](#) by Stanford University on Coursera
Sep 2015 IELTS, Score: 7.0, equivalent CEFR level: C1

Scientific Publications

- **de Vita R.**, Trenti M., MacLeod M., [2019, MNRAS, 485, 5752](#)
- **de Vita R.**, Trenti M., MacLeod M., [2018, MNRAS, 475, 1574](#)
- **de Vita R.**, Trenti M., Bianchini P., et al. [2017, MNRAS, 467, 4057](#)
- Askar A., Bianchini P., **de Vita R.**, et al. [2017, MNRAS, 464, 3090](#)
- **de Vita R.**, Bertin G., Zocchi A., [2016, A&A, 590, A16](#)

Seminars and Conferences

Nov 2017 Introduction to high performance computing ([ADACS](#)); (AUS)
Jun 2017 Globular cluster systems and their host galaxies; (ITA)
Apr 2016 Contributed talk, [MODEST 16](#); (ITA)

Teaching Experience

2017 **Laboratory coordinator**, The University of Melbourne;
Subject: "Introduction to Life Earth and Universe"
2016 **Laboratory demonstrator**, The University of Melbourne;
Subject: "From the Solar System to the Cosmos"