

Ruggero De Vita, PhD

Senior Data Scientist



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

Mar 2022 - Today: **Senior Data Scientist** at Tiko

- 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 baseline consumption capacity (1 sec frequency time series) for an aggregated pool of 10000+ residential devices.
- Models rely on deep learning algorithms, such as Recurrent Neural Networks with multiple LSTM layers.
- Maintenance of the data pipeline requires in-depth knowledge of high-level tools suited for production (e.g. MLflow, Airflow, Kubernetes, Timescale).

Nov 2021 - Mar 2022: **Senior Data Scientist Consultant** at Ernst & Young

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

Giu 2019 - Nov 2021: **Data Scientist Consultant** at Capgemini Engineering

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, Facebook's Prophet.

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

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⚙️ 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

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Technical tools

Python · Pandas · SKLearn · PySpark ·

Git · AWS · Django · Javascript ·

C++ · HTML · SQL · Docker

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Languages

Italian (Native)

English (Proficient)

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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”