Valerio **Gherardi**

Data Scientist

Valencia, España

+34 681 904 907 | vgherard@sissa.it | vgherard.github.io | vgherard | vgherard | ValerioGherardi

Theoretical Physicist | Data Scientist

Description

My background in Physics provides me with a strong scientific and analytic mindset, that I enjoy applying to problems and challenges coming from different areas. I am currently employed as Data Scientist at Voicemod, a software development company whose main focus are voice changing technologies, which represents for me a tremendous opportunity for widening my experience with data in a cool and fast-changing scenario.

During my PhD in Trieste I have had the privilege to study in an international, multicultural and multidisciplinary environment. I love and get motivation from finding myself surrounded by people with heterogeneous backgrounds and life experiences.

What motivates me more in my work is being a concrete help to people and teams I collaborate with, and, on the personal side, getting the chance to learn something new every day.

Work Experience

Data Scientist *Valencia, Spain*

Voicemod *2021-Current*

Education

PhD in Theoretical Particle Physics *Trieste, Italy*

International School for Advanced Studies (SISSA) *2017-2021*

- Awarded with honourable mention.

Laurea Magistrale in Fisica *Rome, Italy*

Università La Sapienza *2015-2017*

- Final Grade: 110/110 cum laude

Laurea Triennale in Fisica *Rome, Italy*

Università La Sapienza *2012-15*

- Final Grade: 110/110 cum laude

Technical Skills and Tool Stack

Programming languages. R / Python / C++ / Wolfram / FORTRAN

SQL - DBMS Amazon Redshift / Google BigQuery

BI and visualization tools. Tableau / Looker / Amplitude / RStudio Shiny / Plotly

ETL. DBT / Airflow

Cloud Computing. Amazon Web Services / Google Cloud Platform

Machine Learning. Keras / Tensorflow

Scientific skills. Mathematical and Statistical modeling / Machine and Deep Learning / Natural Language Processing / Algorithmic coding / Scientific Communication

Language Skills

Italian Mother tongue | **English** Professional | **Spanish** Advanced

Personal Projects

`r2r` (vgherard.github.io/r2r/)

Implementation of hash tables in the R programming language.

`kgrams` (vgherard.github.io/kgrams/)

Tools for training and evaluating k-gram language models, R package with C++ backend. See also the associated blog post at datascienceplus.com/an-introduction-to-k-gram-language-models-in-r/. This software is currently awaiting for peer-review at rOpenSci.org.

`runiv` (github.com/vgherard/runiv)

An R client for R-universe APIs.

`hepscrape` (github.com/vgherard/hepscrape)

An arXiv scraper built using R, Python and GitHub Actions.

`fcci` (vgherard.github.io/fcci/)

Support for Feldman-Cousins Confidence Intervals; R/C++ implementation.

Certifications

Data Structures and Algorithms Specialization *Coursera.org*

University of California San Diego *2021*

- Course description and certificate: https://coursera.org/share/4fe6c2e914585cb813c93488d20d8f52

Natural Language Processing Specialization *Coursera.org*

deeplearning.ai *2021*

- Course description and certificate: https://coursera.org/share/903e270df65d75737d6c884743509e84

Deep Learning Specialization *Coursera.org*

deeplearning.ai *2020*

- Course description and certificate: https://coursera.org/share/1a79776ec145f7d140c93b95281f5250

Data Science Specialization *Coursera.org*

Johns Hopkins University *2020*

- Course description and certificate: https://coursera.org/share/3d64e7b0e1038f16fdb2103a71878e53

Publications

1. Feruglio, F., Gherardi, V., Romanino, A., & Titov, A. (2021). Modular invariant dynamics and fermion mass hierarchies around □= i. *JHEP*, *05*, 242. https://doi.org/10.1007/JHEP05(2021)242
2. Gherardi, V., Marzocca, D., & Venturini, E. (2021). Low-energy phenomenology of scalar leptoquarks at one-loop accuracy. *JHEP*, *01*, 138. https://doi.org/10.1007/JHEP01(2021)138
3. Gherardi, V., Marzocca, D., & Venturini, E. (2020). Matching scalar leptoquarks to the SMEFT at one loop. *JHEP*, *07*, 225. https://doi.org/10.1007/JHEP07(2020)225
4. Gherardi, V. (2020). General correlations to b →s□$^{+□}$- anomalies from a rank condition. *Nuovo Cim. C*, *43*(2-3), 45. https://doi.org/10.1393/ncc/i2020-20045-0
5. Alvarenga Nogueira, J. H., Colasante, D., Gherardi, V., Frederico, T., Pace, E., & Salmè, G. (2019). Solving the Bethe-Salpeter Equation in Minkowski Space for a Fermion-Scalar system. *Phys. Rev. D*, *100*(1), 016021. https://doi.org/10.1103/PhysRevD.100.016021

6. Gherardi, V., Marzocca, D., Nardecchia, M., & Romanino, A. (2019). Rank-One Flavor Violation and B-meson anomalies. *JHEP*, *10*, 112. https://doi.org/10.1007/JHEP10(2019)112

Awards

***"Admeto Pettinari e Paolo Andreini" Scholarship* (01/10/2019)**

Awarded by *Cassa di Sovvenzione e Risparmio per i dipendenti della Banca d'Italia*