

Dario Del Giudice, PhD

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TECHNICAL HIGHLIGHTS & LEADERSHIP EXPERIENCE

- 9-year experience in data science, successfully completing multidisciplinary scientific and engineering projects.
- Passionate about model building / validation, discovery / predictive analytics, Bayesian statistics, machine learning.
- Supervised >10 researchers in their model implementation efforts, and led >10 international research teams.
- Published ~20 articles in prestigious journals (e.g. Science, Nature) with 30+ collaborators from mathematics/physics.

PROJECTS ACCOMPLISHED

- Led a German-Danish collaboration and, through a novel Bayesian data assimilation method using Gauss-Markov model, achieved forecasting accuracy and precision approx. 30% higher than with traditional techniques.
- Drove a Stanford-Chinese partnership leveraging data mining methods to find key predictive features. The selected weighted regression model was able to fit the data 10% better while using one less predictor than existing models.
- Coordinated a Swiss-Czech team and developed a model with 50% lower uncertainty than previous ones. Showed the usefulness of an advanced statistical method combined with cluster computing to quantify the sources of forecasting error.

EDUCATION

- PhD, Engineering (computational statistics, hidden Markov processes), ETH Zurich, Switz. 2015
- MSc, Engineering (quantitative methods, risk analysis), École Polytechnique, Switz. *Summa cum laude*. 2011
- BSc, Sciences (system modeling, network analysis), University of Bologna, Italy. *Summa cum laude*. 2009

PROFESSIONAL EXPERIENCE

- **Postdoctoral Researcher, NC State University, NC.** 2018 – now
Planned and performed projects involving model-data fusion, stochastic simulations, scenario analysis, hierarchical Bayes. Completed specializations on machine learning, big data, AI, and deep learning.
- **Postdoctoral Researcher, Stanford University, CA.** 2015 – 2018
Initiated and executed studies involving time series, multi-model inference, Monte Carlo methods, visualization, hyperparameter optimization, overfitting prevention, algorithms, supervised learning, hypothesis testing.
- **Research Engineer Intern, e-dric, Switz.** 2010
Improved forecasting models, programmed in VBA. Awarded for outstanding performances in industry.

COMMUNICATION SKILLS

- Invited to present statistical methods and project results in Switzerland, France, Denmark, Austria, Germany, UK, US.
- Co-taught six classes in advanced applied statistics, system analysis, programming, predictive modeling, convolution.
- Facilitated workshops to help scientists effectively communicate their technical knowledge to a diverse audience.

HONORS & AWARDS

- Selected by USCIS as individual of Extraordinary Ability. 2018
- Best Paper Award, modeling conference, Serbia. 1 prize awarded over > 170 papers. 2012
- Veolia Award for the most innovative project, France. 1 prize awarded over > 50 candidates. 2011
- Société de géomatique Prize for the best grade & Environment Prize for an excellent thesis, Switz. 2011
- Grivat Scholarship for the most meritorious student, Switz. 1 grant awarded over ~ 150 students. 2010
- Excellence Scholarship for outstanding performance, Switz. ~1 grant awarded per ~100 students. 2009
- Scholarship to study at Universidad de Granada, Spain. 1 grant awarded over ~ 100 students. 2008

SKILLS

- **Software:** R (mcmc, caret, dplyr, zoo, plotly), Python (sklearn, pandas, keras), Matlab, Excel, LaTeX, SQL.
- **Languages:** English (fluent), Italian (fluent), French (fluent), Spanish (fluent), German (fluent), Latin (intermediate), Portuguese (intermediate).