

Dario Del Giudice, PhD

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TECHNICAL HIGHLIGHTS & LEADERSHIP EXPERIENCE

- 8-year experience in data science, successfully completing multidisciplinary scientific and engineering projects.
- Passionate about model building/validation, uncertainty quantification/reduction, and computational Bayesian statistics.
- Supervised in total 8 researchers in their model implementation efforts, and led 8 international research teams.
- Published >10 articles in prestigious journals (e.g. Science, Nature) with 30+ collaborators from mathematics/physics.

PROJECTS ACCOMPLISHED

- Led a German-Danish collaboration and demonstrated that a novel Bayesian data assimilation method using Gauss-Markov processes could lead to forecasting accuracy and precision approx. 30% higher than traditional techniques.
- Drove a Stanford-Chinese partnership leveraging data mining methods to find key predictive features. The selected regression model was able to fit the data 10% better while using one predictor fewer 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, Gauss-Markov processes), ETH Zurich, Switz. 2015
- MSc, Engineering (quantitative methods, risk analysis), École Polytechnique, Switz. *Summa cum laude*. 2011
- BSc, Sciences (system modeling, mathematical analysis), University of Bologna, Italy. *Summa cum laude*. 2009

PROFESSIONAL EXPERIENCE

- **Postdoctoral Researcher, NC State University, NC.** 2018 – present
Planned and performed studies involving model-data fusion, stochastic simulations, scenario analysis, adaptive Monte Carlo methods, model development, machine learning, hierarchical Bayes.
- **Postdoctoral Researcher, Stanford University, CA.** 2015 – 2018
Initiated and executed studies involving time series analysis, multi-model inference, weighted regression, hyperparameter optimization, overfitting prevention, algorithms, information visualization, 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 five classes in advanced applied statistics, system analysis, programming, predictive modeling.
- Facilitated workshops to help scientists effectively communicate their technical knowledge to a diverse audience.

HONORS & AWARDS

- 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, Switz. 1 prize awarded over ~ 50 students. 2011
- Environment Prize for an excellent thesis, Switz. 1 prize awarded over ~ 50 students. 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, ncd4, dplyr, rgdal), Python (sklearn, pandas, keras), Matlab, Office (esp. Excel), LaTeX, SQL.
- **Languages:** Italian (native), English (fluent), French (fluent), Spanish (fluent), German (fluent), Latin (intermediate), Portuguese (intermediate).