Dario Del Giudice, PhD

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TECHNICAL HIGHLIGHTS & LEADERSHIP EXPERIENCE

- Sr Data Scientist, 9 year of experience (first internationally recognized machine learning project with python in 2012).
- Passionate about model building / validation, discovery / predictive analytics, Bayesian statistics, computer programming.
- Supervised >10 scientists in their model implementation efforts, and led >10 international research teams.
- Authored >20 articles in prestigious journals (e.g. Science, Nature) with >30 multidisciplinary collaborators.

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 team of economists to better quantify value-at-risk while accounting for parameter uncertainty and correlation between distribution tails, which ended up freeing millions $ for the institution to be invested more efficiently

EDUCATION

- PhD, Engineering (computational statistics, hidden Markov models), 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

- **Sr Data Science, Allstate Insurance**. 2020 – present

Driving forward projects on multivariate forecasting of asset returns, quantifying economic capital for diverse lines of business in case of 1-in-100 year events, estimating operational risk via compound loss distribution and quantile fitting.

- **Postdoctoral Researcher, Stanford University and NCSU**. 2015 – 2020

Initiated and executed studies involving Monte Carlo algorithms, econometrics, stochastic simulations, random forest, scenarios, hierarchical Bayes, hyperparameter optimization, overfitting, supervised learning, hypothesis testing.

- **Research Engineer Intern, e-dric, Switz**. 2010

Improved time-series 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 statistics, information technology, predictive modeling, convolution, time series.
- Facilitated Stanford workshops to help scientists effectively communicate their technical knowledge to diverse audiences.

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, ggplot, knitr), Python (sklearn, pandas, keras), Matlab, Excel, LaTeX, SQL.
- **Languages**: English (fluent), Italian (fluent), French (fluent), Spanish (fluent), German (fluent), Latin (intermediate), Portuguese (intermediate).