Dario Del Giudice, PhD

Austin, TX • 650 864 2978 • ddelgiu@ncsu.edu • ddelgiudice.github.io

TECHNICAL HIGHLIGHTS & LEADERSHIP EXPERIENCE

- 10 year of data science experience (first internationally recognized machine learning project with python in 2012).
- Unique background, successfully leading diverse teams at world-class research institutions & a Fortune 500 corporation.
- Passionate about model building / validation, discovery / predictive analytics, Bayesian statistics, computer programming.
- Supervised >12 scientists / modelers, authored >20 articles in prestigious journals (e.g. Science, Nature).

PROJECTS ACCOMPLISHED

- Led a German-Danish collaboration and, through a novel Bayesian data assimilation method using Gauss-Markov processes, 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 quantify value-at-risk using mixture distributions, considering parameter uncertainty and correlation between 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 Scientist, Allstate Insurance**. 2020 – present

Driving forward projects on multivariate forecasting of asset returns, quantifying capital for lines of business in case of tail events, estimating operational risks via compound loss distribution and quantile fitting etc. Ranked among top performers.

- **Researcher, Swiss Institute of Technology → Stanford → NCSU**. 2011 – 2020

Initiated and executed studies involving, e.g., 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

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).