

Carl Johann SIMON-GABRIEL

Lissabonner Str. 6, 70173 Stuttgart
0033 6 76 94 36 68 - cjsimon@mpg.tuebingen.de

Education

MPI for Intelligent Systems, Sep 13 – present | Tübingen, Germany

PhD Student - Empirical Inference Department - Supervisor: Prof. B. Schölkopf
Awarded a **Google European Doctoral Fellowship**

Mines ParisTech, Sep 10 – Jul 13 | Paris, France

Master in Science and Executive Engineering
Minoring in Geostatistics and Applied Probabilities
Master Thesis in Computational Biology (“From Phenotype to Genotype”)

Lycée Kléber (“Prépa”), Sep 07 – Jul 10 | Strasbourg, France

Intensive foundation course preparing the competitive examinations for entry to the French “Grandes Écoles”
Majoring in maths, physics and computer science

Projects and Work Experience

Facebook AI Research, Jul 17 – Oct 17 | Paris, France

Working together with **David Lopez-Paz, Yann Ollivier, Léon Bottou**
Understanding and defending against adversarial examples in convolutional nets

MPI for Intelligent Systems, Jun 14 – present | Tübingen, Germany

Group: Empirical Inference, Supervisor: **Prof. B. Schölkopf**
Causality (Exoplanet Detection), Kernel Methods (Kernel Mean Embeddings), Generative Adversarial Nets

MPI for Intelligent Systems, Sep 13 – May 14 | Tübingen, Germany

Group: Machine Learning and Computational Biology Research, Supervisor: **Prof. K. Borgwardt**
Population structure correction for rare variants in genome wide association studies and sub-phenotyping techniques for personalized medicine (also with Prof. Dr. Kristel van Steen)

Institut Curie - Mines ParisTech, Jan – Jun 13 | Paris, France

Group: Center for Computational Biology, Supervisor: **Prof. J.-P. Vert**
Statistics and machine learning methods applied to the study of phenotypic and genotypic properties of different yeast cell strains. Work summarized in my Master thesis.

Heinrich Walter Bau - Eiffage Travaux Publics, Jun – Sep 12 | Borkern, Germany

Development of a pricing program to evaluate the cost of standard depots; Deputy Site Manager for the building of a depot near Hamburg (10 000 m²)

École Normale Supérieure, Sep 11 – Jan 12 | Paris, France

Group: Complex Networks and Cognitive Systems, Supervisor: **Prof. V. Hakim**
Part-time research semester in Theoretical Neuroscience while at Mines ParisTech

Collaboration with the CNRS, Oct 09 – May 10 | Strasbourg, France

Group: MCube research team, Supervised by Dr. C. Marques and his team
Study of the erosion of pebbles as part of a project in the Classes Préparatoires

Classes and Skills

- Attended Classes:
Differential Calculus, Integral Calculus, Probabilities, Statistical Models and Decisions, Automatic, Optimization, Geostatistics, Machine Learning, Neuroscience (at the ENS), Synthetic Biology, Functional Analysis, Ergodic Theory, Empirical Inference
- Computer science and software :
Main coding language: **Python**; Also used: R, JAVA, C, Caml Light, Matlab, Maple
- Attended Summer Schools:
Machine Learning for Personalized Medicine, Sep. 2013 (Tübingen) and Sep 2014 (Paris)
Gaussian Process Winter School, Jan. 2014 (Sheffield)

Machine Learning Summer School, Jul. 2015 (Tübingen)

- Languages :

German/French : native, English : fluent, Russian : intermediate (7 years), Japanese : basics (2 years)

Other activities

Diploma of Musical Studies (DEM)

Majoring in **piano, chamber music and musical culture** at the Strasbourg Conservatory for Music and Dance (CRR); Also obtained/practiced : **End-of-musical studies certificate in composing, counterpoint and musical analysis**; organ ("2nd cycle" course); improvisation

Member of the Student Union and of the Ski Club, April 2011 - 2012

In charge of the entire renovation of the common room at the students' hall of residence (25 000 €); Co-organizer of the reception, dinner and ball in honor of the first year students at the "Maison des Polytechniciens" (Paris) (30 000 €)

Sports

Skiing (competition), tennis, volleyball

Publications and Reports

- Tolstikhin, Gelly, Bousquet, **Simon-Gabriel**, Schölkopf, *AdaGAN: Boosting Generative Models*, arXiv, 2017
- **Simon-Gabriel**, Schölkopf, *Kernel Distribution Embeddings: Universal Kernels, Characteristic Kernels and Kernel Metrics on Distributions*, Under Review for JMLR
- Huang, Peloso, Howrigan, Rakitsch, **Simon-Gabriel**, Goldstein, Daly, Borgwardt, Neal, *Bootstrap: Population Informed Bootstrapping for Rare Variant Tests*, Under Review
- **Simon-Gabriel**, Scibior, Tolstikhin, Schölkopf, *Consistent Estimation of Functions of Random Variables*, NIPS, 2016
- Schölkopf, Hogg, Wang, Foreman-Mackey, Janzig, **Simon-Gabriel**, Peters, *Modeling Confounding by Half-Sibling Regression*, PNAS, 2016
- Schölkopf, Hogg, Wang, Foreman-Mackey, Janzig, **Simon-Gabriel**, Peters, *Removing Systematic Errors for Exoplanet Search via Latent Causes*, ICML, 2015
- **Simon-Gabriel**, *From Genotype to Phenotype*, Master Thesis, unpublished

Teaching Experience

- **Sommerakademie Braunschweig 2016**, Deutsche Schüler Akademie, "Vom Schall zum Klang!", Course Instructor together with G. Böhriger
- **Sommerakademie Neubeuern 2015**, Studienstiftung des Deutschen Volkes, "Kausalität, Exoplaneten und Black Jack: Wie lernt man aus Daten", Invited by Prof. Dr. J. Peters and Prof. Dr. B. Schölkopf to tutor an Exoplanet Detection project
- **Tutoring:**
 - **Machine Learning Theory**, Karl Eberhardt Universität, Tübingen, WS 2016/2017
 - **Intelligente Systeme I**: Empirische Inferenz, Karl Eberhardt Universität, Tübingen, SS 2015