Steven **Golovkine**

PhD Candidate - Applied Mathematics

☐ (+33) 06 72 28 22 71 | ✉ steven_golovkine@icloud.com | 🐱 StevenGolovkine | in steven-golovkine

Current Position

PhD. Candidate in Statistics, Applied Mathematics
Technocentre, Renault and CREST (Ensai)

Guyancourt, France
Jan. 2018 - Present

- **Supervisors:** Valentin Patilea (Ensai, CREST), Nicolas Klutchnikoff (Univ Rennes, IRMAR)
- **Funding:** Partnership with Groupe Renault through a CIFRE convention.
- **Aim:** Build driving scenarios database for the reliability validation of autonomous vehicles and Advanced Driver-Assistance Systems using trajectory data.
- **Keywords:** Adaptive optimal smoothing, functional data analysis, gaussian mixtures, Hölder exponent, local polynomials, model-based clustering, multivariate functional principal component analysis, traffic flow.

Education

MSc in Big Data
Ensai (National School for Statistics and Data Analysis)

Rennes, France
Sept. 2016 - Oct. 2017

- Dual degree program with Ensai engineering degree.
- Main topics: Statistics, Applied Mathematics, Computer Science.
- Training topics: assess, treat, and analyze massive amounts of heterogeneous data.
- Program taught entirely in English.

M.S. in Statistics (*Diplôme d'ingénieur*)
Ensai (National School for Statistics and Data Analysis)

Rennes, France
Sept. 2014 - Oct. 2017

- Training topics: Statistics, Econometrics and Computer Science.

Statistics of random processes
Aarhus University

Aarhus, Danmark
Jan. 2016 - Jun. 2016

- ERASMUS exchange.

CPGE MPSI/MP
Lycée Clemenceau

Reims, France
Sep. 2011 - Jun. 2014

Skills

Programming	Python, **R**, Bash
Tools	Google Cloud Platform, Git, Continuous Integration
Languages	French (mother tongue), English (TOEIC - 920 / 990)

Experience

Research Engineer
Technocentre, Renault

Guyancourt, France
Jan. 2018 - Present

- Develop clustering methods for the analysis of autonomous vehicle Advanced Driver-Assistance Systems data.
- Create a Python package for Functional Data Analysis: FDApy.
- Use of Google Cloud Platform (Compute Engine and BigQuery) for the analysis of vehicle data.
- Software: Python and **R**.

Data Scientist (Intern)
Technocentre, Renault

Guyancourt, France
Apr. 2017 - Oct. 2017

- Implement a massive data analysis methodology for the validation of driving assistance systems.
- Software: Matlab.

Research Assistant   *Fort Collins, USA*

COLORADO STATE UNIVERSITY   *Jun. 2016 - Aug. 2016*

- Compare survey estimators for the *National Survey of College Graduation*.
- Software: **R**.

Teaching Experience

Linear regression   *Ensai*

M1 LEVEL   *Sep. 2019 - Present*

- Introduce linear regression to ENSAI students (2nd year).
- Theoretical and practical (with **R**) sessions.

Scientific production

ARTICLES

Clustering multivariate functional data using unsupervised binary trees.   *arXiv preprint*

GOLOVKINE S., KLUTCHNIKOFF N. & PATILEA V.   *2020*

- Propose a model-based clustering algorithm for a general class of functional data for which the components could be curves or images.
- Apply to the analysis of vehicle trajectories on a German roundabout.
- Link: arXiv:2012.05973

Learning the smoothness of noisy curves with application to online curve estimation.   *arXiv preprint*

GOLOVKINE S., KLUTCHNIKOFF N. & PATILEA V.   *2020*

- Propose a simple estimator for the local regularity of the trajectories of a stochastic process.
- Real data sets illustrate the effectiveness of the new approache.
- Link: arXiv:2009.03652

SOFTWARES

FDApy (`https://github.com/StevenGolovkine/FDApy`)

PYTHON PACKAGE

- Introduce linear regression to ENSAI students (2nd year).
- Theoretical and practical (with **R**) sessions.

denoisr (`https://github.com/StevenGolovkine/denoisr`)

R PACKAGE

- Introduce linear regression to ENSAI students (2nd year).
- Theoretical and practical (with **R**) sessions.

Conferences

WITH TALK

Dec. 2020 **CFE-CMStatistics,** Computational and Methodological Statistics		*Virtual Conference*
Nov. 2020 **StatMod2020,** Statistical Modeling with Applications		*Bucharest, Romania*
Jun. 2020 **JDS,** 52nd Statistical Days		*Conference Proceedings*
Jun. 2019 **JDS,** 51st Statistical Days		*Nancy, France*
Mar. 2019 **MASCOT-NUM,** Annual Conference		*Rueil-Malmaison, France*

ATTENDED

Jun. 2019 **DS**[3]**,** Data Science Summer School	*Saclay, France*