Suney Toste

Mathematics and Machine Learning

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suney-toste

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Languages

Spanish	MT	● ● ● ● ● ●
English	C1	● ● ● ● ● ○
French	C1	● ● ● ● ● ○

Areas of Specialization

Machine Learning • Data Analysis • Mathematical Modeling • Differential and Stochastic Equations • Brownian Motion

Skills

Programming and scripting:

Python (PyTorch, Scikit-learn, Langchain, FastAPI) / Matlab / R / Git

Scientific tools:

Wolfram Mathematica

Text and visualizing tools:

LaTeX / Inkscape / Excalidraw

Interests

Machine Learning • Probabilities • Statistics

Experience

Apr 2025 - **Head of AI and Research**
HillMetrics · Paris
- PyTest (Fixtures & Mocks), Langchain, FastAPI

Jan 2024 - Mar 2025 **Postdoctoral Researcher in Applied Mathematics**
INRIA - LJLL · Paris
- PyTorch, Scikit-learn, Git

Education

2020–2023 **Ph.D. in Applied Mathematics**
PSL - École Normale Supérieure d'Ulm · Paris
-Statistics, Computer Vision, Machine Learning

2019–2020 **M2 Mathématiques de la modélisation**
UPMC-Paris 6 · Paris
-Modelling, Probabilities, Differential Equations

2017-2019 **Master in Differential Equations**
University of Havana · Havana
-Bifurcation, Numerical methods

2013-2017 **B.Sc. in Mathematics**
University of Havana · Havana

Grants

2019 PGSM Master Laureates

Publications & Pre-prints

2023 * **Toste, S.**, Paquin-Lefebvre, F., Holcman, D. Narrow escape with a uniform killing field in 2D and optimal exit paths.
* **Toste, S.**, Holcman, D. Extreme diffusion with point-sink killing fields for fast calcium signaling at synapses. SIAM | arXiv | HAL

2022 * Paquin-Lefebvre, F., **Toste, S.**, Holcman, D. How large the number of redundant copies should be to make a rare event probable. Phys. Rev. E | arXiv | HAL
* **Toste, S.**, Holcman, D. Arrival time for the fastest among N switching stochastic particles. Eur. Phys. J. B | arXiv | HAL

2021 * **Toste, S.**, Holcman, D. Asymptotics for the fastest among N stochastic particles: role of an extended initial distribution and an additional drift component. JPAMT | arXiv | HAL

Teaching

2024 - 2025 TD Fourier Analysis for 2nd year of BSC. Informatics (lectures by Laurent Lazzarini), TD Differential Equations for 2nd year of BSC. Informatics (lectures by Sophie Chemla), at University Sorbonne Polytech.

2021 - 2022 TD Analysis 4 for 2nd year of BSC. Informatics (lectures by Olivier Glass) at University Paris-Dauphine.

2017 - 2019 TD Ordinary Differential Equations for 3rd year of BSc. Mathematic and 3rd year of BSc. Computer Science (lectures by Mariano Rodríguez Ricard) at University of Havana.

2016 - 2017 TD Linear and Non Linear Optimization for 3rd year of BSc. Computer Science (lectures by Aymée Marrero Severo) at University of Havana.

2014 - 2016 TD Calculus I for 1rst year of BSc. Pharmacy (lectures by Greter Domínguez Rodríguez) at University of Havana.