

Liam Ilan Toran

San Francisco, CA

☎ (415)-410-9920 • ✉ liam.toran@gmail.com • 🌐 liamkesatoran.github.io

Driven Data Scientist with an international background in Research and great analytical skills. Fluent in Python and Maths.

Education

Ecole Normale Supérieure de Lyon (ENS Lyon)

France

Master's Degree in Applied Mathematics

2018

- Studied courses include Advanced Statistics and Machine Learning, Numerical Methods, Statistical Physics, Stochastic Calculus, Dynamical Evolution Equations, Harmonic Fluid Dynamics and the Boltzmann Gas Equation.

Bachelor's Degree in Computer Science and Bachelor's Degree in Mathematics

2016

- Studied courses include Algorithms, Data Structures, Linear Algebra, Programming and Junior level classes in Physics.
- Entered ENS Lyon, a **top 3 school in France**, through a top 0.5% ranking in nation-wide competitive exams.

Experience

University of Nice Sophia Antipolis, J.A.Dieudonné Research Institute

Nice, France

Technical Research Assistant Intern, 6 months

2019

- Simulated and analyzed Dynamical Networks, e.g. social media networks or fungus growth.
- Mastered new models and uses of stochastic and partial differential equations in population dynamics.
- Implemented state of the art numerical fluid simulation techniques and predictive models through Python.
- Solved the relationship between the physical parameters and the propagation speed for dynamical branching networks.

UCSD, Biomedical Research Institute, Knight Lab

San Diego, USA

Machine Learning Research Assistant Intern, 5 months

2017

- Analyzed compositional microbiological datasets using supervised & unsupervised learning.
- Coded several new compositional statistical data analysis methods with Python & applied them to the Knight Lab datasets.
- Discovered a long time unresolved bias that arises during unsupervised SVD dimensionality reduction and its cause.
- Found a way to resolve it using better metrics. **Led a conference in front of 55 scientists** to explain the phenomenon.
- This led to the following [research article](#) (11 citations).

National Institute for Research in Computer Science and Automation (Inria)

Grenoble, France

Computer Science Research Assistant Intern, 3 months at the BiPoP team

2016

- Modeled, simulated, optimized and controlled cloth's move with implicit contact and exact friction.
- Solved and simulated use cases and prototypes of the problem in Python.
- Built a new scalable solver of the problem. Implemented it in production software using C and C++.
- The resulting solver was **ten times faster** than the previous product. This led to the following [research article](#) (8 citations).

Miscellaneous

Math & Physics Teaching and Tutoring (undergraduate students)

2018 - 2019

Professional Skills

Software Development: Python (Jupyter, Pandas, sklearn, Keras, PyTorch, TensorFlow, Matplotlib, ...), C, C++, SQL, Linux, Git, LaTeX, MatLab, Lisp, Excel.

Data Analysis: Regression, Classification, Feature engineering, Deep Learning, Natural Language Processing (NLP), Computer Vision, Scoring, Metrics, Data Visualization.

Statistical Models: Linear, Decision Trees, Forests, Boosting, SVMs, Neural Networks.

Languages: English & French: Fluent (native) Japanese: Basic (self-taught)

Interests and Hobbies

Travelling the world, Meeting new people, Sci-Fi, Mangas, Gaming, Piano.