Raymond Zhang

Curriculum Vitae

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Age : 24 years old

Education

2020–2021	**ENS Paris-Saclay - KTH Decision System Control, Pre-doctoral internship**. Best arm identification, Markov chain regression
2019–2020	**ENS Paris-Saclay - MCS Second year graduate study**, *Mathématiques Vision Apprentissage [MVA]*. Topological data analysis for imaging and machine learning, Introduction to medical image analysis, Object recognition and computer vision, Image denoising : the human machine competition, Mathematical methods for neurosciences, Probabilistic graphical models, Reinforcement learning, Graphs in machine learning, Advanced learning for text and graph data ALTEGRAD, Bio-statistics, Theory of deep learning, Bayesian machine learning
2018–2019	**ENS Paris-Saclay - MCS First year graduate study**, *Jacques Hadamard*. Advanced Probability and Algebra, Monte-Carlo and stochastic processes, Mathematics linked with Physics, Optimization, Statistical learning, Image processing, Uncertainties.
2017–2018	**ENS Paris-Saclay - Bachelor of mathematics** . Fundamental probability and measure theory, Probability and concentration phenomenon, Algebra, Differential calculus, Complex analysis, Hilbert and Fourier analysis, Ordinary partial differential equation, Approximation of partial differential equations, Quantum mechanics.
2015–2017	**Higher School Preparatory Classes MPSI-PSI***, *Lycée Sainte Geneviève*, Versailles. Intensive two-years university foundation course preparing for competitive entrance examinations. Undergraduate mathematics, physics, chemistry and computer science.
2015	**Baccalauréat engineering science**, *Lycée Gustave Eiffel*, Bordeaux. French equivalent of the A-level. Specialty in mathematics and engineering science

Working Experience

November–August 2021	**Predoc Internship**, *KTH Decision control laboratory*, Supervised by Alexandre Proutiere. Best Arm identification, Markov chain Regression
April–October 2020	**Master internship**, *Centrale Supelec, Gif sur Yvette, France*, Supervised by Richard Combes. Curse of dimentionality of combinatorial Thompson Sampling
April–August 2019	**Master internship**, *The Alan Turing Institute, London, The United Kingdom*, Supervised by Neil Walton. Deep Reinforcement learning applied to traffic control in urban area
January–June 2018	**Bachelor internship**, *Centre des mathématiques et de leurs applications, CMLA, Cachan, France*, Supervised by Jean-Michel Morel, Pablo Arias and Thibaud Erhet , ENS Paris-Saclay. Deep burst denoising, Image and video denoising with deep convolutional neural networks *Python & Pytorch*

Publication

2021   **On the Suboptimality of Thompson Sampling in High Dimensions**, *NeurIPS2021*.
https ://arxiv.org/pdf/2102.05502.pdf

2021   **Reinforcement Learning for Traffic Signal Control : Comparison with Commercial Systems**, *CIT2021*.
https ://arxiv.org/pdf/2104.10455.pdf

Languages

French	**Mother tongue**	
English	**C1 level**	*Cambridge Advanced*
Chinese	**Intermediate**	*Spoken*
Spanish		

Programming languages

Basic	Matlab, HTML
Intermediate	LaTeX, Linux, Microsoft Windows, OSX
Advanced	Python [Pytorch,Tensorflow]

Interests

- Table Tennis/ Badminton
- Video Games
- Informatics / Hardware
- Programming