

# Xavier Bresson

## Specialist & Innovator in AI

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## Expertise in Artificial Intelligence

- Expert in Neural Networks (CNNs, LSTM, RL, Generative Models) applied to Computer Vision and NLP. Publications at NeurIPS, ICML, ICCV, CVPR, ICLR, JMLR.
- Leading researcher in Deep Learning on Graphs, boosting traditional deep learning with new generation of techniques based on Relational Information properties and applied to broad areas such as recommender systems, molecule generation for drugs design, CV and NLP for better reasoning with knowledge graphs, etc.
- Awarded **2.5M US\$ grant funding** from Singapore National Research Foundation to develop new deep learning techniques
- Conference co-organizer with Y. LeCun (Facebook AI Chief Scientist) at **UCLA 2018** and **2019**
- My **YouTube talk** on ConvNets on Graphs (9k views)
- Our **YouTube tutorial** (NeurIPS'17) on Geometric Deep Learning on Graphs and Manifolds (14k views)
- My **Industrial AI Course** at IPAM and delivered to Fortune 500 companies (Deloitte, UnitedHealth)
- My **Graduate Course on Deep Learning** at NTU Singapore (800 slides, 50 PyTorch exercises, 91/100 student evaluation)
- My **GitHub codes on Spectral ConvNets** and **Graph ConvNets**

## Most proud of



### Proficiency

Both Math and Computer Science solid skills



### Challenge

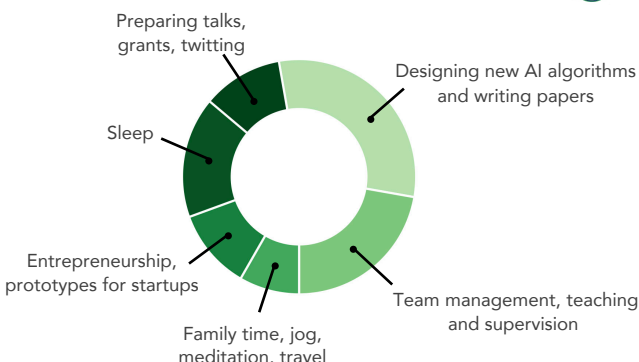
Making the bridge and expanding my research interests to new fields (every 3 years)



### Multiculturalism

19 years abroad, with experiences in Asia, US, Europe

## What my day is like



## A few figures

60+ peer-reviewed **research papers**  
5700+ citations in **Google Scholar**  
3M US\$ grant funding awarded (US, Switzerland, HK, SG)  
300+ likes on **GitHub**  
900+ followers on **Twitter**

## Experience

### Associate Prof. in Computer Science

Jan. 2017 – Ongoing NTU, Singapore

- Singapore NRF Fellowship
- Teach courses on Machine Learning and Deep Learning
- Supervision of postdocs/PhD/engineers on AI projects
- Associate Editor of SIAM Journal on Imaging Sciences

### Research Scientist

Sept. 2013 – Dec. 2016 EPFL, Switzerland

- Industrial projects in collaboration with Nestle, Geneva Airport, National Hospital, Montreux Jazz Festival.
- Mining Star Wars Universe in 2016 (+100 international articles like **Gizmodo**, **Dailymail**, **Geek**).

### Assistant Prof. in Computer Science

Sept. 2010 – Sept. 2013 CityU, Hong Kong

Research, teaching and supervision in Graph Science.

### Postdoctoral Scholar in Mathematics

Nov. 2006 – Aug. 2010 UCLA, Los Angeles

Research in Computer Vision and Compressed Sensing.

## Education

### PhD Applied Mathematics

2001–2005 Lausanne, Switzerland  
Swiss Federal Institute of Technology (EPFL)

### MSc Engineering

1998–2000 Paris, France  
Ecole Supérieure d'Électricité (SUPELEC)

### BSc Theoretical Physics

1996–1998 Marseille, France  
University of Marseille I