

Education

- Jan 2016–19 **PhD in Computer Science**, TECHNICOLOR R&D AND TELECOM PARIS, France.
Thesis: Learning representations for robust audio-visual scene analysis
Advisors: Prof. Slim Essid, Prof. Gaël Richard (Telecom Paris)
Dr. Alexey Ozerov, Dr. Ngoc Duong, Dr. Patrick Pérez (then at Technicolor)
Reviewers: Dr. Josef Sivic (INRIA / ENS, France), Prof. Tuomas Virtanen (TUT, Finland)
◦ Proposed novel approaches that fuse audio and visual modalities to robustly perform multiple scene understanding tasks such as event classification, audio source separation/detection, visual object localization. Manuscript at <https://pastel.archives-ouvertes.fr/tel-02115465/document>
- 2014–15 **Master in Sound and Music Computing**, UNIVERSITAT POMPEU FABRA, Barcelona.
Thesis: Improving audio retrieval through content and metadata categorization
Advisors: Prof. Xavier Serra and Dr. Frederic Font, Music Technology Group
◦ We organize audio content and metadata information through morphological description and topic modeling respectively to improve audio retrieval in the context of freesound.org
- 2010–14 **Bachelor of Technology (hons.) in Electronics and Communication Eng.**, THE LNM INSTITUTE OF INFORMATION TECHNOLOGY, Jaipur, CGPA: 9.65/10, Class Position: **2/197**.
Thesis: Exploring speech representation schemes: A manifold learning approach
Advisors: Dr. Chng Eng Siong (NTU, Singapore) and Dr. Pratik Shah (IIIT-Vadodara)
◦ Investigated various manifold learning algorithms and sparse representation paradigm for feature extraction and classification of vowels
- NORTH INDIAN CLASSICAL MUSIC, VOCAL**
- 2012 **Sangeet Bhushan**, PRACHEEN KALA KENDRA, Chandigarh, India.
- 2011 **Junior Diploma**, PRAYAAG SANGEET SAMITI, Allahabad, India.

Honors and Achievements

- 2019 Awarded ISMIR 2019 community grant for delivering tutorial on Audiovisual Music Processing with Prof. Zhiyao Duan, Prof. Slim Essid and Bochen Li
- 2015 Awarded CIFRE Fellowship to conduct doctoral research within an industry-university collaboration in France
- 2012 Received letter of commendation for highest cumulative performance index, LNMIIT
- 2012 Interviewed by All India Radio in the program 'Shining Star' as a young classical vocalist (Broadcasted on 26/12/2012)

Work Experience

- Feb 2020–Present **Postdoctoral Researcher in Machine Learning**, TELECOM PARIS, France.
Chair on Data Science & Artificial Intelligence
Advisor: Prof. Florence d'Alché-Buc
◦ Recently joined the chair to work in areas of interest such as active learning and deep kernel learning.
- Feb 2019–20 **Research Engineer**, THE A-SENSE AND TELECOM PARIS, France.
Audio Scene Analysis
Team: Prof. Slim Essid, Dr. Raphael Blouet, Dr. Francois Rigaud
◦ Worked on real-time audio event detection for the A-sense startup (Details not provided due to non-disclosure agreement)
- October 2015 **Algorithm Engineering Intern**, DOUBAN INC., Beijing.
Music Recommendation
Advisor: Dr. Jason Zhao, Director of Algorithm and Douban FM Product Team
◦ Proposed and implemented an algorithm to improve Douban FM, company's music recommendation system (Details not provided due to non-disclosure agreement)

- December 2013 **Carnegie Mellon University IPTSE Winter School**, Multimedia Proc. & Data Mining.
[Content-Based Video Indexing and Retrieval Using Corr-LDA](#)
Advisors: Dr. Bhiksha Raj and Dr. Rita Singh (Carnegie Mellon University, USA)
◦ Designed a novel content-based video indexing and retrieval system using correspondence latent dirichlet allocation (Corr-LDA) framework (<http://arxiv.org/pdf/1602.08581v1.pdf>)
- May–August 2013 **EEE Research Attachment Programme**, NANYANG TECHNOLOGICAL UNIVERSITY, Singapore.
[Polymer Based Thin Film Organic Photovoltaic Solar Cells](#)
Advisor: Dr. Tang Xiaohong, School of Electrical and Electronic Engineering
◦ Fabricated P3HT/PCBM organic solar cells
◦ Acquired experimental skills in spin coating, thickness measurement and solar cell characterization
◦ Simulation of device models for bulk heterojunction organic solar cell
- May–July 2012 **Research Intern**, MICROSOFT RESEARCH LAB, India.
[Quantifying People's Affinity Towards Pentatonic Scales](#)
Advisors: Dr. Ranjita Bhagwan and Dr. Monojit Choudhury
◦ Designed a web interface (survey) consisting of several experiments to gather data for understanding people's affinity and choice hierarchy for a chosen set of existing and theoretical pentatonic scales

Patents and Publications

Please visit my google scholar page ([link](#))

Skills

- Technical** Programming/Frameworks: Python, TensorFlow, Keras, MATLAB, C, Apache Spark
Course work in audio/image signal processing, machine learning, optimization, music perception. Attended machine learning (MLSS 2017) and computer vision (ICVSS 2016) summer schools.
- Music** Vocal: North Indian Classical Music | Instruments: Harmonium, Tabla
- Language** Full Professional Proficiency: English, Hindi | Elementary: French

Professional and Extracurricular Activities

- Reviewing** IEEE Transactions on Audio, Speech and Language Processing, EURASIP Journal on Audio, Speech, and Music Processing, 2017, 2018, ISMIR 2020
- Music** Joined music band at Technicolor as a vocalist, 2017–2018
Selected to judge auditions for music performances at Rishi Valley School, 2009
Performed and devised several vocal stage programs / Lead group member for vocals, 2006–2010
- Theatre** Participated in several English and Hindi plays
Attended a 60-day theatre workshop by National School of Drama graduates

Selected Talks

- May 2020 Audiovisual representation learning with applications to music performances
Invited expert talk at ATAL-AI Faculty Development Program, IIIT Vadodara
- Jan 2020 Learning representations for robust AV scene analysis
ENS, Lyon, France - Successful postdoc application in Dr. Remi Gribonval's group
- Nov 2019 Tutorial on Audio-visual Music Processing (with Prof. Z. Duan, Prof. S. Essid and B. Li)
ISMIR 2019, TU Delft, Netherlands
- Sept 2018 Weakly supervised representation learning for AV events
Deep Learning: From Theory to Applications, Rennes