Himalaya Jain

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Education

- **University of Rennes 1** — **Rennes, France**
  PhD in Computer Science — *May 2015 - Apr 2018*
  Advisors: Dr. Patrick Pérez, Dr. Joaquin Zepeda and Dr. Rémi Gribonval

- **International Institute of Information Technology** — **Hyderabad, India**
  M.Tech in Computer Science — *July 2010 - June 2012*

Research Experience

- **Valeo AI** — **Paris, France**
  Research scientist — *July 2018 - Present*

  At valeo.ai, I am working on research projects involving domain adaptation, data augmentation and semantic segmentation with application towards autonomous driving. These projects allow me to explore and learn more on machine vision and machine learning.

- **INRIA and Technicolor** — **Rennes, France**
  PhD researcher — *May 2015 - April 2018*
  Advisors: Dr. Patrick Pérez, Dr. Joaquin Zepeda and Dr. Rémi Gribonval

  My thesis work is focused on large-scale image search. I primarily worked on supervised deep learning to learn to encode images for efficient image search. The work includes learning a complete indexing and encoding pipeline in supervised manner, which makes it applicable for very large-scale search. I also explored generative adversarial networks and self-supervised learning.

- **LinkMedia team, INRIA** — **Rennes, France**
  Pre-doctoral researcher — *Dec 2014 - Apr 2015*
  Advisors: Dr. Hervé Jégou, Dr. Patrick Pérez and Dr. Rémi Gribonval

  As a pre-doctoral, I have worked on indexing and quantization for approximate nearest neighbor search. I further followed this work during my thesis, and it lead to a publication at ECCV'16.

Publications & Patents

- **ADVENT: Adversarial entropy minimization for domain adaptation in semantic segmentation**. TH Vu, H Jain, M Bucher, M Cord, P Pérez. ArXiv, 2018.
- **Learning a complete image indexing pipeline**. H. Jain, Z. Joaquin, P. Pérez, and R. Gribonval. CVPR, 2018. *Acceptance rate: 29.0%*
- **SuBiC: A supervised, structured binary code for image search**. H. Jain, Z. Joaquin, P. Pérez, and R. Gribonval. ICCV, 2017. *Acceptance rate: 4.7% (spotlight presentation).*
- **Approximate search with quantized sparse representations**. H. Jain, P. Pérez, R. Gribonval, J. Zepeda, and H. Jégou. ECCV, 2016. *Acceptance rate: 26.6%.*
- **Supervised approximate nearest neighbor search.** H. Jain, P. Pérez, J. Zepeda, and C. Bilen. Patent filed, 2016.
- **Method for bulk move of audio-visual files with use of automatic subset selection.** P. Pérez, F Lefebvre, and H. Jain. Patent filed, 2016.

- **Method for selecting a content comprising audiovisual data and corresponding electronic device, system, computer readable program product and computer readable storage medium.** F Lefebvre, H. Jain, and P. Pérez. Patent filed, 2015.

Industrial experience

- **Druva** **Pune, India**
  Software engineer *Aug 2014 - Oct 2014*
  Contributed as backend developer in Druva's data backup software.
  skill used: C++

- **Cisco systems** **Bangalore, India**
  Software engineer *Aug 2012 - Jan 2014*
  Primarily worked on developing ETLs using Informatica for data synchronization and transformation. Also worked on design and development of audit, archive & purge and job control mechanism.
  skill used: Python, SQL, Informatica

Skill-set

Programming Languages: C, C++, MATLAB, Shell, Python, JAVA
Deep learning tools: PyTorch, TensorFlow, Caffe
Software and tools: LaTeX, OpenCV

Accomplishments

- Got Cisco Achievement Program (CAP) award for my contribution to the project, in July13.
- Secured 3rd rank in Joint Entrance Screening Test (JEST) 2011 in Computer Science.
- Appeared in the DEANs list of IIIT-H for 1st semester, Aug-Dec 2010.
- Got 99.26th percentile in GATE-2010, entrance exam for the top Indian institutes, in Computer Science.