

Website: [voletiv.github.io](https://voletiv.github.io)[Google Scholar](#)[LinkedIn](#)[GitHub](#)

EDUCATION	<b>Mila, University of Montreal</b> , Canada	<i>Fall 2018 - present</i>
	PhD in Computer Science — <i>Supervisor</i> : Prof. Christopher Pal	
	<b>Indian Institute of Technology (IIT), Kharagpur</b> , India	<i>2009 - 2014</i>
	Dual Degree (B.Tech. (H) + M.Tech.) in Electrical Engineering with Master's specialization in Instrumentation and Signal Processing	CGPA: 8.44 / 10
RESEARCH PAPERS	[1] K. M. Jatavallabhula, M. Macklin, F. Golemo, <a href="#">V. Voleti</a> , L. Petrini, M. Weiss, B. Considine, J. Parent-Lévesque, K. Xie, K. Erleben, L. Paull, F. Shkurti, S. Fidler, D. Nowrouzezahrai, "Introducing GradSim: Differentiable Simulation for Self-Supervised Parameter Estimation from Video" - <i>MAIS 2020</i>	
	[2] Sarthak Mittal, Alex Lamb, Anirudh Goyal, <a href="#">Vikram Voleti</a> , Murray Shanahan, Guillaume Lajoie, Michael Mozer, Yoshua Bengio, "Learning to Combine Top-Down and Bottom-Up Signals in Recurrent Neural Networks with Attention over Modules" - <i>ICML 2020</i> [ <a href="#">pdf</a> ] [ <a href="#">arxiv</a> ]	
	[3] <a href="#">Vikram Voleti</a> , David Kanaa, Samira E. Kahou, Christopher Pal, "Simple Video Generation using Neural ODEs" - <i>NeurIPS 2019 Workshop</i> [ <a href="#">pdf</a> ]	
	[4] Vincent Michalski, <a href="#">Vikram Voleti</a> , Samira E. Kahou, Anthony Oritz, Pascal Vincent, Chris Pal, Doina Precup, "Comparing Normalization in Conditional Computation Tasks" - <i>ICML 2019 Workshop</i> [ <a href="#">pdf</a> ] [ <a href="#">arxiv</a> ]	
	[5] <a href="#">Vikram Voleti*</a> , Abhishek Jha*, Vinay P. Namboodiri, C. V. Jawahar, "Cross-Language Speech Dependent Lip-Synchronization" - <i>ICASSP 2019</i> [ <a href="#">pdf</a> ]	
	[6] <a href="#">Vikram Voleti*</a> , Abhishek Jha*, Vinay P. Namboodiri, C. V. Jawahar, "Lip-Synchronization for Dubbed Instructional Videos" - <i>CVPR 2018 Workshop</i> [ <a href="#">pdf</a> ]	
	[7] <a href="#">V. Voleti</a> , P. Mohan, S. Gupta, J. Iqbal, "Simple Real-Time Pattern Recognition for Industrial Automation" - <i>ICIDE 2017</i> [ <a href="#">pdf</a> ]	
	[8] S. Jonna, <a href="#">V. S. Voleti</a> , R. R. Sahay, and M. S. Kankanhalli, "A Multimodal Approach for Image De-fencing and Depth Inpainting" - <i>ICAPR 2015</i> [ <a href="#">pdf</a> , <a href="#">IEEE</a> ]	
RESEARCH EXPERIENCE	<b>Research projects</b> Multi-scale image generation using Neural ODE; Self-supervised video prediction for autonomous driving; Neural rendering; Differentiable physics simulation for video	
	<b>University of Guelph</b> , Canada — Visiting Researcher	<i>Dec 2019 - present</i>
	<ul style="list-style-type: none"> <li><i>Supervisor</i>: Prof. Graham Taylor</li> </ul>	
	<b>Google</b> , Mountain View, USA — Research Intern	<i>Sep 2019 - Dec 2019</i>
	<ul style="list-style-type: none"> <li><i>Team</i>: Google AI Perception, <i>Supervisors</i>: Bryan Seybold, Sourish Chaudhuri</li> <li>Research on multimodal semi-supervised Active Speaker Detection in videos</li> </ul>	
	<b>IIT Hyderabad</b> , India — Research Fellow; <i>Supervisor</i> : Prof. C. V. Jawahar	<i>May 2017 - Aug 2018</i>
	<ul style="list-style-type: none"> <li>Synthesized video in regional Indian languages by generating lips from audio</li> <li>Full paper published at ICASSP 2019 [<a href="#">5</a>], short paper published at CVPR 2018 Workshop [<a href="#">6</a>]</li> </ul>	
OTHER EXPERIENCE	<b>Reviewer</b> — NeurIPS 2020, ICML 2020, CCAI @ ICLR 2020, ICLR 2020, CCAI @ NeurIPS 2019, LLD @ ICLR 2019	
	<b>NextAI</b> , Canada — AI Scientist in Residence	<i>Mar 2020 - present; Apr 2019 - Sep 2019</i>
	<b>IVADO/Mila Deep Learning School</b> , Montreal, Canada — Teaching Assistant	<i>Sep 9-13, 2019</i>
	<b>University of Montreal</b> , Montreal, Canada — Teaching Assistant	
	<ul style="list-style-type: none"> <li>Fundamentals of Machine Learning (IFT 6390) by Ioannis Mitliagkas</li> </ul>	<i>Fall 2020; Sep 2019</i>
	<b>Playment</b> , Bengaluru, India — Computer Vision Consultant	<i>Jan 2018 - Jun 2018</i>
	<ul style="list-style-type: none"> <li>Worked on semantic segmentation models for autonomous driving</li> </ul>	
	<b>TalentSprint</b> , Hyderabad, India — Mentor, Foundations of AI & ML	<i>Jan 2018 - May 2018</i>
	<ul style="list-style-type: none"> <li>Designed and presented tutorials on machine learning, and mentored industry professionals</li> </ul>	

WORK EXPERIENCE	<b>GreyOrange Robotics</b> , Gurgaon, India — Image Processing Engineer <span style="float: right;"><i>Feb 2016 - May 2017</i></span>
	<ul style="list-style-type: none"> <li>Developed computer vision module for video processing in real time for warehouse automation</li> <li>Research paper [7] based on work is published by ACM at ICIDE 2017</li> </ul>
	<b>Airbus</b> , Bengaluru, India — Associate Engineer <span style="float: right;"><i>Jul 2014 - Feb 2016</i></span>
	<ul style="list-style-type: none"> <li>Involved in development and integration of avionics systems for the long-range aircrafts family</li> <li>Simulated signal-level modifications to the Flight Warning Computer, adopting standard avionics coding guidelines (DO-178B)</li> </ul>
TALKS & OTHER EFFORTS	<ul style="list-style-type: none"> <li><i>Jul 2020</i> - “GANs: the story so far” — Summer Symposium on AI Research, India [slides] [video]</li> <li><i>Jul 2020</i> - “A brief tutorial on Neural ODEs” — Mila, Canada [slides] [video]</li> <li><i>Apr 2020</i> - “Mathematics of Neural ODEs” — University of Guelph, Canada [slides]</li> <li><i>Jan 2020</i> - “Simple Video Generation using Neural ODEs” — IIIT Hyderabad, India [slides]</li> <li><i>May 2019</i> - Tutorial on “GANs” — AI for Social Good Summer Lab, Montreal</li> <li><i>Jan 2019</i> - Released code for Self-Attention GAN in PyTorch, converting from TensorFlow code released by Google Brain [GitHub]</li> <li><i>Oct 2018</i> - “BigGAN” — Mila, University of Montreal, Canada [slides]</li> <li><i>Feb 2018</i> - “Image de-fencing using RGB-D data” — MPI Informatics, Saarbrücken, Germany [slides]</li> <li><i>Feb 2018</i> - “Intuition behind LSTMs” at IIIT Hyderabad, India [slides]</li> <li><i>Aug 2017</i> - “Mathematics of back-propagation in multi-layer perceptrons” — GreyOrange Robotics, India, and at IIIT-Hyderabad, India [slides]</li> <li>Attended summer schools on <a href="#">Computer Vision</a> and <a href="#">Machine Learning</a> at IIIT-Hyderabad in 2017 <ul style="list-style-type: none"> <li>Stood 3<sup>rd</sup> in Computer Vision Summer School out of 120+ participants, rewarded full fee waiver</li> <li>Stood 4<sup>th</sup> in Machine Learning Summer School out of 120+ participants, rewarded full fee waiver</li> </ul> </li> <li>Won the SMS Classification challenge, participated in the Video Action Recognition challenge in the 2017 <a href="#">Hack2Innovate</a> hackathon in Bangalore, India</li> <li>Qualified JEE 2009 by IIT at 99.7 percentile, with All India Rank of 1330 (out of 384,977)</li> </ul>
THESIS PROJECTS	<i>Supervisor</i> : Prof. Rajiv Sahay, Electrical Engineering, IIT KHARAGPUR, India
	<b>Master’s thesis</b> — “De-fencing of Images using RGB-D Data” <span style="float: right;"><i>2013 - 2014</i></span> <ul style="list-style-type: none"> <li>Elimination of fence-like occlusions, and inpainting of images using RGB-D data</li> <li>Nominated for Best M.Tech. Project Award among three departments (Electrical, Electronics, CS)</li> <li>Research paper [8] based on work is published in the proceedings of ICAPR 2015</li> </ul>
	<b>Bachelor’s thesis</b> — “Identification of Bilabial Lip Closures in Audio and Video” <span style="float: right;"><i>2012 - 2013</i></span> <ul style="list-style-type: none"> <li>Measurement of synchronization between audio and video using bilabial cues in both modes</li> </ul>
PAST RESEARCH INTERNSHIPS	<b>KU Leuven</b> , Belgium — <i>Supervisor</i> : Prof. Ingrid Verbauwhede, ESAT <span style="float: right;"><i>Summer 2013</i></span>
	<ul style="list-style-type: none"> <li>Designed arithmetic operations using Carry-Free Logic, simulated circuits in Xilinx</li> </ul>
	<b>IIT Kharagpur</b> , India — <i>Supervisor</i> : Prof. Aurobinda Routray, Electrical Engineering <span style="float: right;"><i>Summer 2012</i></span> <ul style="list-style-type: none"> <li>Made a gesture recognition program in MATLAB using Hidden Markov Models</li> </ul>
	<b>Imperial College</b> , UK — <i>Supervisor</i> : Prof. Peter Cheung, Electrical & Electronics <span style="float: right;"><i>Summer 2011</i></span> <ul style="list-style-type: none"> <li>Measured the relative power consumption among the LookUp Tables (LUTs) of an FPGA</li> </ul>
SKILLS	C/C++, CUDA, HTML/CSS, Javascript, Keras, MATLAB, OpenCV, Python, PyTorch, Tensorflow