

ONLINE	Website: voletiv.github.io	GitHub: github.com/voletiv	LinkedIn: Vikram Voleti
EDUCATION	PhD student , with Prof. Christopher Pal MILA, UNIVERSITY OF MONTREAL, Canada Dual Degree (B.Tech. (H) + M.Tech.) in Electrical Engineering with Master's specialization in Instrumentation and Signal Processing INDIAN INSTITUTE OF TECHNOLOGY (IIT), KHARAGPUR, India		
			<i>Fall 2018 - present</i> <i>2009 - 2014</i> CGPA: 8.44 / 10
RESEARCH PAPERS	[1] Vincent Michalski, Vikram Voleti , Samira E. Kahou, Anthony Oritz, Pascal Vincent, Chris Pal, Doina Precup, "Comparing Normalization in Conditional Computation Tasks" in <i>ICML 2019 Workshop</i> [pdf] [2] Abhishek Jha*, Vikram Voleti *, Vinay P. Namboodiri, C. V. Jawahar, "Cross-Language Speech Dependent Lip-Synchronization" in <i>ICASSP 2019</i> [pdf] [3] Abhishek Jha*, Vikram Voleti *, Vinay P. Namboodiri, C. V. Jawahar, "Lip-Synchronization for Dubbed Instructional Videos" in <i>CVPR Workshop</i> , 2018 (FIVER) [pdf , url] [4] V. Voleti , P. Mohan, S. Gupta, J. Iqbal, "Simple Real-Time Pattern Recognition for Industrial Automation," in <i>Proc. International Conference on Industrial Design Engineering</i> , 2017 [pdf] [5] S. Jonna, V. S. Voleti , R. R. Sahay, and M. S. Kankanhalli, "A Multimodal Approach for Image De-fencing and Depth Inpainting," in <i>ICAPR</i> , 2015, pp. 1—6 [pdf , IEEE]		
CURRENT PROJECTS	<ul style="list-style-type: none"> • Large-scale video reconstruction and generation using latent dynamics • Visual reasoning via language grounding: integrating question-answering into GANs • Other projects: deep generative models for 3D, conditional image generation [1] 		
RESEARCH EXPERIENCE	Research Fellow — IIIT HYDERABAD, India <i>Prof. C. V. Jawahar, Centre for Visual Information Technology, IIIT-Hyderabad</i> <ul style="list-style-type: none"> • Full paper published at ICASSP 2019 [2], short paper published at CVPR Workshop 2018 [3] • Built a visual speech recognizer (lipreader) to classify spoken words without audio • Built an assessor for self-training on unlabelled data, zero-shot learning on out-of-vocabulary words • Synthesis of video in other languages by generating lips from audio 		
OTHER EXPERIENCE	Teaching Assistant — IVADO/MILA DEEP LEARNING SCHOOL, Montreal, Canada <i>Sep 9-13, 2019</i> Teaching Assistant — UNIVERSITY OF MONTREAL, Montreal, Canada <ul style="list-style-type: none"> • Fundamentals of Machine Learning (IFT 6390) — Ioannis Mitliagkas <i>Sep 2019 - Dec 2019</i> Scientist in Residence — NEXTAI (startup accelerator), Montreal, Canada <i>April 2019 - Aug 2019</i> <ul style="list-style-type: none"> • Consultant for multiple startups on computer vision, deep learning and AI Consultant, Computer Vision — PLAYMENT, Bengaluru, India <i>Jan 2018 - June 2018</i> <ul style="list-style-type: none"> • Worked on semantic segmentation models for autonomous driving Mentor, Foundations of AI & ML — TALENTSPRINT, Hyderabad, India <i>Jan 2018 - May 2018</i> <i>Six months certificate program in collaboration with IIIT HYDERABAD, India</i> <ul style="list-style-type: none"> • Designed and presented tutorials on machine learning, and mentored industry professionals 		
WORK EXPERIENCE	Image Processing Engineer — GREYORANGE ROBOTICS, Gurgaon, India <i>Feb 2016 - May 2017</i> <ul style="list-style-type: none"> • Developed computer vision module to perform video processing in real time for warehouse automation • Responsible for development and testing of entire code, including video processing module, module for communication with camera drivers, other systems, and server • Research paper [4] based on work is published by ACM at ICIDE 2017 		

	Associate Engineer — AIRBUS GROUP INDIA, Bengaluru, India <div>July 2014 - Feb 2016</div> <ul style="list-style-type: none"> Involved in development and integration of avionics systems for the long-range aircrafts family Simulated signal-level modifications to the Flight Warning Computer, adopting standard avionics coding guidelines (DO-178B)
TALKS & OTHER ACHIEVEMENTS	<ul style="list-style-type: none"> May 2019 — Talk: Tutorial on GANs at the AI for Social Good Summer Lab, Montreal January 2019 — Code: Released code for Self-Attention GAN in PyTorch, converting from TensorFlow code released by Google Brain [GitHub] Oct 2018 — Talk: “BigGAN - Large Scale GAN Training for High Fidelity Natural Image Synthesis” [presentation] — at Mila, University of Montreal, Canada Feb 2018 — Talk: “Image de-fencing using RGB-D data” [presentation] — at Max Planck Insitute for Informatics, Saarbrücken, Germany Feb 2018 — Talk: “Intuition behind LSTMs” [presentation] — at IIIT Hyderabad, India Aug 2017 — Talk: “Mathematics of back-propagation in multi-layer perceptrons” [link] — at GreyOrange Robotics, India, and at IIIT-Hyderabad, India Attended summer schools on Computer Vision and Machine Learning at IIIT-Hyderabad in 2017 <ul style="list-style-type: none"> Stood 3rd in Computer Vision Summer School out of 120+ participants, rewarded full fee waiver Stood 4th in Machine Learning Summer School out of 120+ participants, rewarded full fee waiver Won the SMS Classification challenge, participated in the Video Action Recognition challenge in the 2017 Hack2Innovate hackathon in Bangalore, India Qualified JEE 2009 by IIT at 99.7 percentile, with All India Rank of 1330 (out of 384,977)
THESIS PROJECTS	Masters thesis — “ De-fencing of Images using RGB-D Data ” <div>2013 - 2014</div> IIT KHARAGPUR, India — <i>Prof. Rajiv Sahay, Department of Electrical Engineering</i> <ul style="list-style-type: none"> Elimination of fence-like occlusions, and inpainting of images using RGB-D data Nominated for Best M.Tech. Project Award among three departments (Electrical, Electronics, CS) Research paper [5] based on work is published in the proceedings of ICAPR 2015 Links — GitHub repository containing thesis, presentation, code files, and results Bachelors thesis — “ Identification of Bilabial Lip Closures in Audio and Video ” <div>2012 - 2013</div> IIT KHARAGPUR, India — <i>Prof. Rajiv Sahay, Department of Electrical Engineering</i> <ul style="list-style-type: none"> Measurement of synchronization between audio and video using bilabial cues in both modes Links — GitHub repository containing thesis, presentation, code files, and results
PAST RESEARCH INTERNSHIPS	“Implementation of Carry-Free Arithmetic Operations in FPGA” <div>Summer 2013</div> KU LEUVEN, Belgium — <i>Prof. Ingrid Verbauwhede, Computer Security & Industrial Applications</i> <ul style="list-style-type: none"> Designed arithmetic operations using Carry-Free Logic, simulated circuits in Xilinx Links — GitHub repository containing report, presentation, and related files “Fingertip Gesture Recognizer using HMMs” <div>Summer 2012</div> IIT KHARAGPUR, India — <i>Prof. Aurobinda Routray, Department of Electrical Engineering</i> <ul style="list-style-type: none"> Implemented Hidden Markov Models in MATLAB, used to recognize shapes drawn by fingertip Links — GitHub repository containing report, presentation, code files, and results “Measurement of Intra-die Power Variation in Sub-nm FPGA’s” <div>Summer 2011</div> IMPERIAL COLLEGE, London, UK — <i>Prof. Peter Cheung, Head, Electrical and Electronics Engineering</i> <ul style="list-style-type: none"> Measured the relative power consumption among the LookUp Tables (LUTs) of an FPGA Links — GitHub repository containing presentation, certificate, and recommendation letter
SKILLS	C, C++, CUDA, HTML/CSS, Javascript, Keras, MATLAB, OpenCV, Python, PyTorch, Shell, Tensorflow