

E M V Naga Karthik

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August 29, 2020
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Research Objective

With my knowledge of deep learning techniques and medical image processing, I aim to adapt generative modelling algorithms to augment medical images by synthesizing them across different imaging modalities. I aspire to gain hands-on experience in this field by engaging with academic groups across elite universities and research institutions.
To develop soft skills by collaborating with supervisors and peers.

Education

- **École de Technologie Supérieure** Montréal, Canada
M.A.Sc in Electrical Engineering 2019 - Present
 - Masters Thesis: Simulation of Freehand 3D Ultrasound Images from an MRI Atlas
 - Supervisor and Co-Supervisor: Prof. Catherine Laporte and Prof. Farida Cheriet
 - Current GPA: 4.3/4.3
- **Shiv Nadar University** Greater Noida, India
B.Tech in Electronics and Communication Engineering 2015 - 2019
Minor in Mathematics
 - Undergraduate Thesis: Extraction and Visualization of the Features of Fingerprints using Conventional Methods and Convolutional Neural Networks
 - Supervisor: Prof. Madan Gopal
 - Graduated with Cumulative GPA of 9.19/10.0
 - Member of university's table tennis team and represented the university in various intra- and inter-university competitions each year
- **Kendriya Vidyalaya** Mumbai, India
Higher Secondary Education 2013 - 2015
 - Graduated with a 90.2%
- **Kendriya Vidyalaya** Mumbai, India
Senior Secondary Education 2005 - 2013
 - Graduated with a Cumulative GPA of 10/10
 - Received a cash prize of 5,000 INR for exceptional academic performance

Publications (available at naga-karthik.github.io/publications)

Peer-Reviewed Journal Articles

1. Naga Karthik, Enamudram, E. Karimi, S.M. Lulich, C. Laporte. Automatic Tongue Surface Extraction from Three-Dimensional Vocal Tract Images. *The Journal of Acoustical Society of America*, 147(3), 2020.

Academic Awards & Honours

ÉTS Internal Scholarship (5,000 CAD)	2020
Master's Tuition Fee Exemption for Winter Semester (3,500 CAD)	2020
Dean's List Award for Monsoon semester	2018
Travel and Subsistence Allowance for a Research Internship at ÉTS (4,200 CAD)	2018
Dean's List Award for Spring semester	2018
Dean's List Award for Monsoon semester	2017

Research Experience

- **Undergraduate Research Intern** Indian Institute of Technology, Bombay
Tomographic Reconstruction May 2017 – July 2017
 - Worked under the supervision of Prof. Ajit Rajwade, Department of Computer Science and Engineering.
 - Adapted the concepts of filtered back projection (FBP), dictionary learning and conjugate gradient methods to medical images.
 - Applied Radon transform, discrete Cosine transform (DCT) and dictionary learning concepts, namely, Orthogonal Matching Pursuit (OMP) and K-means Singular Value Decomposition (K-SVD) to reconstruct walnut slices and human colon images.
 - Modified the existing MATLAB codes to compare and analyze the results from each method.

Teaching Experience

- **Introduction to Robotics** Shiv Nadar University
Undergraduate Teaching Assistant Aug. 2018 - Dec. 2018
 - Conducted experiments with basic robot movement such as the line follower, obstacle avoider and Proportional Integral and Derivative (PID) control.
 - Engaged with during the class hours during the lab in their experiments.
 - Assisted the course instructor in evaluating the final projects and grading the performance of students.

Technical Skills

- Programming and Markup Languages
 - Python, L^AT_EX, PyOpenGL
- Deep Learning Libraries
 - PyTorch, Keras
- Specialized Software
 - MATLAB, Slicer3D

Other Skills

- Sports/Athletics
 - **Winner** of the Shiv Nadar University Sports League (SNUSL) Table Tennis Championship, a league-format, intra-university tournament held every academic year between 6 different teams. February 2019
 - **Winner** of the Shiv Nadar University Sports League (SNUSL) Table Tennis Championship. January 2018
 - **Winner** of the **best player** award in Shiv Nadar University Sports League (SNUSL) Table Tennis Championship for the academic year 2017-18. January 2018
 - **Winner** of the Banyan League Table Tennis Championship, an annual league-style tournament held between four universities: Shiv Nadar University, Ashoka University, O.P. Jindal Global University and BML Munjal University. September 2017
- Languages
 - **Expert:** English
 - **Intermediate:** Hindi, Telugu
 - **Novice:** French