

VASUDEV SHARMA

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Education

University Of Toronto

Master of Science in Applied Computing (Computer Science)

Sep. 2021 – Present

Toronto, Canada

VIT University

B.Tech in Computer Science

Sep. 2016 - June 2020

Vellore, India

Relevant Coursework

- Machine Learning (Audit)
- ML in Healthcare
- Computer Vision
- Natural Language Computing
- Information Visualization
- Deep Learning

Experience

University of Toronto

Teaching Assistant

Sept 2021 – Present

Toronto, Canada

- TAing the course CSCA20: Introduction to programming.

NeuroPoly, University of Montreal

Machine Learning Engineer

Nov 2020 – August 2021

Montreal, Quebec, Canada

- Developed an open source software AxonDeepSeg - Axon / Myelin segmentation using Deep Learning.
- Implemented and integrated U-Net model for segmentation on Keras framework for histological data (SEM and TEM).
- Fine-tuned models resulting in a performance gain of **5%**, refactored **40%** codebase and performed an exhaustive comparative analysis with state-of-art methods.
- Researched and incorporated dynamic functionality for handling overlapping patch effect on microscopy images

CNRS, CerCo lab

Visiting Deep Learning Research Intern

Dec 2019 - Jun 2020

Toulouse, France

- Researched the influence of EEG on stimulus, stimulus on EEG, and EEG on EEG primarily for the occipital electrodes.
- Improved correlation value(r) by **13% and improvised on the next 1 sec horizon time steps in comparison to the baseline models using state-of-the-art time series models.**
- Experimented the study; "In Alpha Oscillations strong perceptual echoes exist at 10Hz frequency" with various architectures - 1D CNN, LSTM, WaveNet, Conv-LSTM, ARIMA, and an ensemble of these models.

Publications

AxonDeepSeg: Automatic Myelin and Axon Segmentation Using Deep Learning

([LINK](#))

July 2020

OHBM 2020, Canada

High Dimensional Fuzzy Outlier Detection

([LINK](#))

August 2019

ICONIP, Australia

A Fuzzy Constraint Based Method for Outlier Detection

([LINK](#))

August 2019

ICIC2019, China

Technical Skills

Languages: Python, C/C++, Shell Script, HTML

Developer Tools: VS Code, Google Cloud Platform

Technologies/Frameworks: PyTorch, Keras, OpenCV, Git, Docker, GitHub, AWS, Linux, MacOS

Achievements / Awards

Vector Scholarship in Artificial Intelligence 2021

Scholarship ([LINK](#))

September 2021

Vector Institute and University of Toronto

Charpak Lab France Scholarship

Award and Scholarship ([LINK](#))

September 2020

Government of France

Dean List of Academic Intelligence

Award

2016 – 2020

VIT University

Special Achiever Award

Award ([LINK](#))

2019

VIT University