

Anirudha Kemtur

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Education

- 2020–Present **Masters in Computer Science**, *MILA - Quebec AI Institute - University of Montreal*, Montreal, Canada.
- 2015–2020 **B.E.(Hons.) in Computer Science**, *Birla Institute of Technology and Science (BITS) Pilani*, Pilani Campus, India, *CGPA 8.76/10*.
- 2015–2020 **M.Sc.(Hons.) in Economics**, *Birla Institute of Technology and Science (BITS) Pilani*, Pilani Campus, India, *CGPA 8.76/10*.
5 Year Dual Degree Program

Software skills

- Expertise* Brain data analysis
Machine learning : Deep reinforcement learning, Computer vision
Computational Neuroscience
- Languages* Professional: Python
Intermediate: Java, C, Verilog
- Libraries* Pytorch, TensorFlow, Open-AI gym , Django

Experience

- September'20–Present **Graduate Research Assistant**, *MILA - Quebec AI Institute*, Montreal, Canada.
Dr. Karim Jerbi and Dr. Pierre Bellec
- Characterization of human brain activity under naturalistic stimulations for developing individual artificial neuronal models.
 - fMRI and MEG brain data recorded while participants playing Shinobi 3 video game.
 - Training Reinforcement learning algorithms to play like the subjects, while exhibiting network dynamics similar to the brain data of subject.
- February'20–August'20 **Research Intern**, *MILA - Quebec AI Institute*, Montreal, Canada.
Dr. Karim Jerbi
- Exploring similarities between sleep and anaesthesia using EEG data.
 - Developing methods of domain transfer between sleep and anaesthesia using Domain adversarial neural networks.
 - Developing visualisation techniques using guided backpropagation/deepdream to extract brain features from the trained models.
- September'19–December'19 **Bachelor Thesis**, *Rationality Enhancement Group*, Max Planck Institute for Intelligent Systems, Tübingen, Germany.
Dr. Falk Lieder
- Developing strategies robust to model-misspecification using Meta-level Reinforcement learning and Bayesian Inference.
 - Project details in Publication below.
- May'19–August'19 **MITACS Globalink Research Intern**, *Computational and Cognitive Neuroscience Lab*, Université de Montréal, Montreal, Canada.
Dr. Karim Jerbi
- Study of EEG sleep data using Convolutional neural networks.
 - Project details in Publication below.

- Jan'19– **Research Assistant**, *CSIR - Central Electronics Engineering Research Institute*, Pilani, India.
- May'19 Dr. J L Raheja
- Worked on control of Robot manipulator using Deep reinforcement learning techniques.
- June'18– **Research Intern**, *Computational Neuroscience lab*, *IIT- Madras*, Chennai, India.
- August'18 Prof. Dr. V Srinivasa Chakravarthy
- Worked on Computational Neuro-modeling of Reinforcement learning in the brain.

Other Projects

- July'17 **Facial recognition system using Convolutional Neural Network.**
- Followed a three step approach: face detection, encoding and comparison.
 - Transfer Learning was used to generalize the model.
- [\[Code\]](#)
- June'17 **Antartic weather data analysis.**
- Analyzed temperature data with the Autoregressive Integrated Moving Average Model.
 - Forecast was also done based on the obtained model.
- [\[Project Report\]](#) [\[Code\]](#)
- Dec'16 **Stock Market Simulator.**
- A trading platform built using Django, built for college technical fest
 - Server hosted on LAN, participants could register and trade with their mobile.
- [\[Code\]](#)

Coursework

- Computer Science* Convolutional Neural Networks for Visual Recognition, Deep Reinforcement learning, Machine Learning, Data Structures and Algorithms, Object Oriented Programming
- Mathematics* Probability and Statistics, Econometric methods, Linear Algebra, Calculus

Publications

- June'20 **Leveraging Machine Learning to Automatically Derive Robust Planning Strategies from Biased Models of the Environment**, *CogSci 2020: Annual Meeting of the Cognitive Science Society*.
- [\[Paper\]](#) [\[Video\]](#)
- May'20 **Unraveling the neural signatures of dream recall in EEG: a deep learning approach**, *MAIS 2020*.
- [\[Abstract\]](#) [\[Video\]](#)

Organisations

- Aug'15– **Association for Computing Machinery**, *BITS-Pilani Student Chapter*, Core Team.
- May'20
- Chapter has been awarded the Best Student Chapter in India for 3 consecutive years with a recognition from ACM International.
- [\[Website\]](#)

Achievements

- September'20 **Mitacs Graduate Award.**
- Financial award of 15000 CAD to pursue masters degree.
- February'20 **Mitacs Research fellowship.**
- Financial award of 6000 CAD to participate as research intern in Canada for 4 months.
- April'19 **Mitacs Globalink Scholarship.**
- Financial award of 5000 CAD to participate as research intern in Canada for 3 months.
- June'15 **Jee mains exam - All India Rank-3320.**
- 1.3 Million Students had appeared for the exam