

Anirudha Kementur

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Education

- 2020–Present **Masters in Computer Science**, *MILA - Quebec AI Institute - University of Montreal*, Montreal, Canada, *GPA 3.8/4*.
- 2015–2020 **B.E.(Hons.) in Computer Science and M.Sc.(Hons.) in Economics**, *Birla Institute of Technology and Science (BITS) Pilani*, Pilani Campus, India, *GPA 8.76/10*.
5 Year Dual Degree Program

Experience

- September'20–Present **Graduate Research Assistant**, *MILA - Quebec AI Institute*, Université de Montréal, Montreal, Canada.
Dr. Karim Jerbi and Dr. Pierre Bellec
- Working on [Courtois Neuromod Project](#) where brain and gameplay data is collected while participants play videogame inside a fMRI brain scanner.
 - Trained Imitation learning networks to play like videogame while exhibiting gameplay style similar to subjects.
 - Developed models to encode brain data from activations of imitation learning network.
[\[Article\]](#)
- February'20–August'20 **Research Intern**, *Computational and Cognitive Neuroscience Lab*, Université de Montréal, Montreal, Canada.
Dr. Karim Jerbi
- Explored similarities between sleep and anaesthesia using EEG data.
 - Developed methods to domain transfer between sleep and anaesthesia using Domain adversarial neural networks.
 - Developed visualisation techniques using guided backpropagation to extract brain features from the trained models.
[\[Article\]](#)
- September'19–December'19 **Bachelor Thesis**, Max Planck Institute for Intelligent Systems, Tübingen, Germany.
Dr. Falk Lieder
- Trained deep neural networks to discover strategies robust to Human biases using Meta-level Reinforcement learning and Bayesian Inference.
 - Discovered strategies was taught to humans and was shown it improved their decision making.
[\[Article\]](#)
- 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.
[\[Article\]](#)
- Jan'19–May'19 **Research Assistant**, *Council of Scientific and Industrial Research India - CEERI*, Pilani, India.
Dr. J L Raheja
- Worked on control of Robot manipulator using Deep reinforcement learning techniques.
- May'17–July'17 **Summer Intern**, *National Centre for Antarctic and Ocean Research*, Goa, India.
Mr. Sakthivel Samy
- Antarctic weather data analysis and forecasting using ARIMA model.

Skills

- Expertise** Computer vision, Medical imaging , Sequential modelling , Deep reinforcement learning
- Languages** Proficient:: Python
- Familiar: Java, C, Verilog
- Libraries** Proficient:: PyTorch, Matplotlib, scikit-learn, Pandas, Open-AI gym
- Familiar: TensorFlow, Keras, statsmodel

Selected Publications

- August'22 **AI-based modeling of brain and behavior: Combining neuroimaging, imitation learning and video games**, *Kemtur et al. 2022*, Conference on Cognitive Computational Neuroscience 2022.
[\[Article\]](#)
- June'22 **Comparing sleep and anesthetic-induced unconsciousness using Domain adversarial neural networks and EEG**, *Kemtur and Ghosh et al. 2022*, OHBM 2022.
[\[Article\]](#) [\[Video\]](#)
- June'22 **Taking a deep look at the brains of high and low dream recallers: Combining deep convolutional neural networks and sleep EEG**, *Kemtur and Ghosh et al. 2022*, OHBM 2022.
[\[Article\]](#) [\[Video\]](#)
- December'20 **Improving Human Decision-Making using Metalevel-RL and Bayesian Inference**, *Kemtur and Jain et al. 2020*, NeurIPS RWRL 2020.
- June'20 **Leveraging Machine Learning to Automatically Derive Robust Planning Strategies from Biased Models of the Environment**, *Kemtur and Jain et al. 2020*, Proceedings of the 42nd Annual Conference of the Cognitive Science Society(p. 2405-2411), CogSci 2020.
[\[Article\]](#) [\[Video\]](#)

Invited talks and Presentations

- Invited talks* **Mitacs-MTL event, Montreal** - Invited as panelist to share my research journey and discuss AI opportunities in Montreal with over 300 international mitacs interns.(2022)
- Department of Education - Govt of India, Delhi** - Invited to share feedback and recommendations to improve India-Canada research collaborations.(2020)
- Conference Presentations* CCN-San Francisco (2022) , OHBM-Glasgow (2022) , MAIN-Montreal (2021) , NeurIPS-Virtual (2020), CogSci-Toronto (2020)

Selected Awards and Honors

- January'21 **Microsoft AI grant**, Financial award of 4000 CAD.
- September'20 **Mitacs graduate fellowship award**, Financial award of 15000 CAD to pursue masters degree .
- September'20 **University of montreal matching award**, Graduate tuition fee exemption scholarship of 15000 CAD.
- February'20 **Mitacs research fellowship**, Financial award of 6000 CAD to participate as research exchange student in Canada for 4 months.
- August'19 **BITS-Pilani Thesis scholarship**, Financial award of 100000 INR to pursue off-campus bachelor thesis in Germany.
- April'19 **Mitacs Globalink Scholarship**, Financial award of 5000 CAD to participate as research intern in Canada for 3 months.
- August'15- **ACM - Best Student Chapter(India) Award for 3 consecutive years**, Key member of BITS-Pilani
August'18 Association for Computing Machinery Student chapter. .
- June'15 **Jee Mains Exam - All India Rank-3320**, 1.3 Million Students appeared for the exam.

Coursework

- Computer Science* Deep Learning and Applications, Deep Reinforcement learning, Geometric data Analysis, Applied Machine Learning, Data Structures and Algorithms, Object Oriented Programming
- Mathematics* Probability and Statistics, Econometric methods, Linear Algebra, Calculus
- Finance* Security Analysis and Portfolio management, Macroeconomics, Business Analysis and Valuation

List of references

- Dr. Karim Jerbi**, *Graduate research supervisor*, MILA, University of Montreal [\[contact\]](#).
- Dr. Pierre Bellec**, *Graduate research supervisor*, University of Montreal [\[contact\]](#).
- Dr. Falk Lieder**, *Bachelors thesis supervisor*, Max Planck Institute for Intelligent Systems [\[contact\]](#).