Muthu Jeyanthi Prakash

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Objective

An inquisitive masters in Neuroscience graduate aiming to aid in developing innovative healthcare solutions to people by utilizing previously gained skills in data analysis and predictive modelling.

Education

International Masters in Neurosciences, University of Bordeaux, France. Sep, 2019 – June, 2022

Modules: Pathophysiology of neurological & psychiatric diseases, Neurophysiology, Statistics & Neural data analysis, Scientific communication.

B.Tech. Industrial Biotechnology, Anna University, India. Aug, 2015 – May, 2019

Modules: Mathematics, Probability & Statistics, Molecular biology, Genetic engineering, Advanced Biochemistry, Bioinformatics, Biopharmaceutical technology, Bioinformatics.

- **First Class with Distinction**, CGPA: 8.68/10
- Qualified Graduate Aptitude Test in Engineering (GATE, 2019) with All India Rank of 392

Higher Secondary Certificate, Holy Cross Anglo-Indian School, Tuticorin, India. Jun 2013 – Mar 2015

Modules: Biology, Physics, Chemistry & Mathematics.

Research Experience

Master 2nd year traineeship, University of Bordeaux, France. Jan, 2022 – Jun, 2022

- Performed a whole exome sequencing association study to identify low frequency and rare genetic variants associated with incident stroke. Acquired summary statistics of an association study with NGS data.
- Used R, regenie and METAL to perform the statistical analyses.

Remote student intern, Radboud university, Netherlands. Feb, 2021 – Sep, 2021

- Worked on setting-up a synchronization pipeline for the electrophysiological and behavioural data from rodent experiments as part of the coding team at the Genzel lab.
- Utilized signal processing and computer vision principles and wrote python scripts using NumPy, SciPy, pandas and OpenCV-python packages.

Master 1st year traineeship, Nanyang Technological University, Singapore. Feb, 2020 – Jun, 2020

- Worked on the in vitro characterization of mitochondria targeted drugs for Alzheimer's disease at the Neurobiology of Aging and Disease laboratory.
- Optimized the protocol and conducted mitochondrial respirometry experiments in neuroblastoma cell lines.

Bachelor's thesis project, Indian Institute of Technology, Madras, India. Dec, 2018 – Apr, 2019

- Tested whether an oscillatory neural network model for spatial cells explains the properties of the newly discovered Object-Vector cells at the Computational Neuroscience laboratory.
- Wrote MATLAB scripts to replicate the tests performed in experimental paper to test on simulated data.
- Created a mini- virtual environment to simulate head rotation behaviour using Unity 3D and C# programming for another project.
- The work was selected for poster presentation at Society for Neuroscience meeting, 2019.

Awards

- **Region Nouvelle-Aquitaine grant** for second year of master's degree.
- **FidEx International Mobility Scholarship** for master 1st year traineeship.
- Scholarship awarded for the **International Honours Program** at Taipei Medical University in June 2019.

Workshops

- **Computational Neuroscience Online Summer School** Jul, 2020
  Organized by Neuromatch Academy
- **International Honours Program - Brain Sciences and Bio-Imaging** Jun, 2019
  Taipei Medical University, Taiwan.
- **Machine Intelligence and Brain Research Workshop** Jan, 2019
  Indian Institute of Technology, Madras, India.
- **Computational Neuro-Musculoskeletal Biomechanics** Sep, 2018
  Indian Institute of Technology, Madras, India.

Professional Development courses

- **Applied Machine Learning in Python** by University of Michigan
- **Neural Networks and Deep Learning** by DeepLearning.AI
- **Structuring Machine-Learning Projects** by DeepLearning.AI
- **Improving Deep Neural Networks** by DeepLearning.AI
- **Convolutional Neural Networks** by DeepLearning.AI
- **Fundamentals of Neuroscience for Neuroimaging** by John Hopkins University
- **Principles of fMRI-1** by John Hopkins University

  Certificates: link

Skills

- **Laboratory skills**
  Cell-based techniques, Western blot, Immunohistochemistry, Mitochondrial respirometry
- **Computational skills**
  Python (NumPy, SciPy, Pandas, OpenCV, scikit-learn), R, MATLAB, Unity 3D, Blender, SQL, regenie
- **Language skills**
  Tamil, English (IELTS score: 8)
- **Soft Skills**
  Enthusiastic learner, Team player, Organized

Positions of Responsibility

Online volunteer teacher, eVidhyaloka Sep, 2019 – Mar, 2021

- Held weekly online sessions for students of grades 6,7 & 8 from a rural school in Tamil Nadu, India to engage them in science.

Operations & Logistics head, Bio-Hackathon 1.0 Mar, 2018

- Conducted a Biotechnology themed hackathon for the first time in the university department as part of three-member team.
- Communicated with scientific and healthcare institutions and secured sponsorship for the event.

Hobbies

Portraiture, Cycling, Photography, Reading