SWETA KUMARI

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RESEARCH INTEREST

I wish to apply deep learning and reinforcement learning models for early diagnosis of disease to make the medical treatments cheaper and easily accessible.

EDUCATION

Degree	Institute	Project	CGPA	Passing Year
Ph.D	IIT, Madras	Traffic Sign Detection and Classification	7/10(1ST Sem)	Ongoing
M.Tech(Bio-info)	MANIT, Bhopal	*HIV-1* co-receptor prediction using Support Vector Machine	9.33/10	2017
B.Tech(CSE)	MAKAUT, West Bengal	Institute Management System	8.38/10	2015

ACADEMIC EXPERIENCES

- **Ph.D**
  - Pursuing PhD, Computational Neuroscience (CNS) Lab under supervision of Prof. S. Chakaravarthy, Department of Biotechnology, **IIT Madras**
  - Implemented LEGION (Locally Excitatory Globally Inhibitory Oscillator Networks) network, for scene segmentation, using MATLAB
  - Explored 1D and 2D Continuous Attractor Neural Network (CANN) Model, using MATLAB
  - Modeled a Multi-Layered Neural Network to experiment with various kind of Back-propagation algorithms on MNIST dataset, in Python
  - Working on Laterally Interconnected Synergetically SOMs (LISSOMs) for motion detection of moving dots
  - Modeling a Convolutional Neural Network (CNN) for early traffic sign detection and classification, using Tensorflow library
- **Post-Graduation**
  - One-year M.Tech project entitled "Classification of Tropic HIV-1 protein sequences using multi-class Support Vector Machines" under supervision of Dr. Usha Chauhan, MANIT Bhopal 2017
  - Wrote a review paper on "Machine Learning Approaches to study HIV/AIDS infection", under supervision of Dr. Usha Chauhan
- **Under-Graduation**
  - Project on "Institute Management System" 2015 BCETW, Durgapur
  - Developed a Social Networking Site using Advanced JAVA Applets and Servlets from Appleware Computer Academy in Durgapur, 2014
  - Developed a Banking Management System using JAVA

PUBLICATIONS/WORKSHOPS

- Published a research paper entitled **"*Machine Learning Approaches to study HIV/AIDS infection: A Review*"** in Bioscience Biotechnology Research Communication (BBRC) Indexed by Thomson Reuters ISI ESCI journal (3rd March, 2017)
- One research paper entitled *"**Classification of Tropic HIV-1 protein sequences using multi-class Support Vector Machines***" is under review by the Current Science Citation Indexed (SCI) Journal
- **Center for Computational Brain Research (CCBR-IITM) Workshop** (2nd Jan-7th Jan, 2018)
  - Attended a 7-days workshop on "Machine Intelligence and Brain Research" based on interdisciplinary research of Neuroscience and AI
- **Amazon (AWS) Deep Learning Workshop at IITM** (6th Jan, 2018)
  - Attended a 1day workshop on Machine Learning and Deep Learning which explored the use of 'docker' for cloud computing
- Attended a workshop on "Android Application Development" at BCETW Durgapur (29th March, 2014)
- Attended a seminar on "Mobile Technology, Robotics & Intelligent Systems" organized by Dept. of Computer Science and Engineering, BCETW, Durgapur (27th April, 2013)

SCHOLASTIC ACHIEVEMENTS

- Qualified **UGC-NET 2017** in Computer Science and Engineering
- Qualified **GATE** in the year of **2015** and **2017** in Computer Science and Engineering
- **Awarded first prize in Website design** competition on the occasion of International Women's Day 2015 at the Institute of Bengal College of Engineering and Technology for Women (BCETW) of MAKAUT, Durgapur

SOFTWARE & PROGRAMMING SKILLS

- Software/Tools: MATLAB, Weka, DAMBE, Clustal W, BLAST, FASTA, Visual Basic, ENDNOTE
- Languages: Python, C, C++, Visual basic, JAVA, HTML
- Libraries in Python: Tensorflow, Keras, numpy, pandas
- Operating Systems: Windows 7,8,10, Linux
- Database: My SQL server, Oracle, MS Excel

COURSE WORK

- **COMPUTER SCIENCE**
  - Deep Learning
  - Pattern Recognition
  - Linear Algebra and Random Processes
  - Linear Algebra Techniques for Data Analysis and Modeling
  - Discrete Mathematics
  - Engineering Mathematics
  - Data Structure
  - C Programming
  - C++
  - JAVA
  - Database Management System
  - Algorithm
  - Artificial Intelligence

- **BIOINFORMATICS**
  - Principal of Neuroscience
  - Data Mining and Data Warehousing in Bioinformatics
  - Optimization Techniques and Graph Theory
  - Data Analysis in Biology and Evolution
  - Bio Inspired Artificial Intelligence in Soft Computing
  - Bio-modeling and Simulation
  - Numerical Techniques and Biostatistics
  - Biological Databases and Their Management
  - Chemo-informatics &Drug Design
  - Molecular Biology & Molecular Genetics

HOBBIES

- Desired for handcraft since childhood and won 1st prize for making **rangoli** and 2nd rank for **bead work** in hostel competition of my grad.
- Travelling of new places and collecting information of different cultures from people living there.
- Teaching, I have been a tutor for one year during my last year post grad.
- Cooking, I took part in food fest, IITM.