SIVARAMAKRISHNAN SANKARAPANDIAN

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EDUCATION

M.S (Computer Engineering)
Boston University,Boston
2016-2018
GPA 3.45/4.0

B.E (Electrical and Electronics)
Anna University, India
2010-2014
GPA 7.79/10.0

RELATED COURSEWORK

Learning from data,
Deep Learning,
High Performance Computing and GPU programming,
Advanced Data Structures and Algorithms,
Advanced Digital Design using FPGAs and Verilog,
Product design in ECE,
Design by Software

SKILLS

Python(Tensorflow,Pytorch),
C,
Java,
C++,
MATLAB/Simulink,
LabVIEW,
C#,
ASP.NET,
SQL,
Hadoop

EXPERIENCE

Cognitive Analytics and Machine Learning Engineer

Verisk Analytics | Jersey City,NJ | May, 2017 – August, 2017

- Worked in the implementation of Automatic Speech Recognition(ASR) for a specific English accent
- Prototyped different architecture for ASR including DeepSpeech 1 and DeepSpeech 2 and showed improvement in accuracy by pretraining
- Involved in the computer vision problem of understanding the "situation" given an image and implemented a Y-shaped network using a base VGG-net with CRF(Conditional Random Field) loss layer
- Explored Content Based Image Retrivel(CBIR) using LIRe(Lucene Image Retrieval)

Testing and Product Reliability Engineer

Larsen and Toubro Limited |Mysuru,India | 2014-2016

- Built an Automatic Testing Equipment for testing energy meters and implemented tamper detection features in MCF51 series of microcontrollers

MS THESIS

Non-parametric Bayesian Neural Network

Boston University | September, 2017 – May, 2018

- Working in devising a scalable variant of Bayesian Neural Network which determines by itself the number of units in a hidden layer from the data

PROJECTS

Image Segmentation using Variational Inference

Boston University | Jan 2017 – May 2017

- Understood the theory behind Variational Inference and implemented univariate Gaussian mixture model using Gaussian prior in Matlab.
- Implemented Multivariate Mixture of Gaussians using Dirichlet and Gaussian-Wishart Prior in Matlab and experimented with the same code for image segmentation.

Image Compression using Deep Learning

Boston University | Jan 2017 – May 2017

- Implemented fully convolutional autoencoders, recurrent convolutional auto encoders and Generative Advesarial Networks for lossy image compression.
- Implemented Multi-Layer Perceptron(MLP) for lossless image compression using the technique of predictive coding.
- Compared the results with JPEG on different datasets such as CIFAR and HR using pSNR(peak Signal to Noise Ratio) and SSIM(Structural Similarity Index Metric)

Neural Network in C

Boston University | Jan 2017 – May 2017

- Implemented neural network from scratch in C using pointers with speed up achieved using loop unrolling, SSE intrinsics, OpenMP and CUDA.

Converting Ensemble Machine Learning Models in Python to Verilog

Boston University | Sep 2016 – Dec 2016

- Coded a python program from scratch to convert ensemble machine learning models (trained using scikit-learn) to Verilog and Boston housing data was used for demonstrating proof-of-concept.