

# Sivaramakrishnan Sankarapandian

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## EDUCATION

### BOSTON UNIVERSITY

MS IN COMPUTER ENGINEERING  
Expected May 2018 | Boston, MA

### ANNA UNIVERSITY

B.E IN ELECTRICAL AND ELECTRONICS  
ENGINEERING  
Jul 2010 - May 2014 | Chennai, India

## LINKS

Github:// [scelesticsiva](#)  
LinkedIn:// [siva2910](#)  
Portfolio:// [scelesticsiva](#)

## COURSEWORK

### GRADUATE

Learning from data  
Deep Learning  
Statistical Pattern Recognition  
Statistical Learning Theory and Applications  
Computational Tools for Data Science  
Advanced Data Structures and Algorithms  
High Performance Computing and GPU Programming

### UNDERGRADUATE

Object Oriented Programming  
Operating Systems  
Data Structures and Algorithms  
Transforms and Partial Differential Equations  
Numerical Methods

## SKILLS

### PROGRAMMING

Python • Java • C • Matlab  
C++ • LabVIEW • C# • ASP.NET  
SQL • HTML • CSS • JavaScript  
Jekyll  
Tools/libraries  
Tensorflow • Pytorch • Caffe • sklearn  
pandas • matplotlib • seaborn • vivotools  
PowerBI • Spark • Hadoop • Amazon EC2

## PUBLICATIONS

A NOVEL HYBRID MPPT ALGORITHM  
USING LINEAR EXTRAPOLATION

## EXPERIENCE

### CAPTARIO | DATA SCIENTIST INTERN

Jan 2018 – Present | Boston, MA

- Working to improve the features of proprietary drug development simulation environment called Captario SUM by creating a machine learning model to predict variance in simulation results.
- Exploring and visualizing simulation data using PowerBI and seaborn.

### VERISK ANALYTICS | MACHINE LEARNING ENGINEER INTERN

May 2017 – Aug 2017 | Jersey City, NJ

- Created a strong baseline model for Automatic Speech Recognition(ASR) using an architecture(CNN+RNN) inspired from DeepSpeech 2 by applying a pretraining-pruning strategy.
- Implemented a Y-shaped CNN using a base VGG-net with Conditional Random Field(CRF) loss layer for "situation" recognition in images.

### LARSEN AND TOUBRO LIMITED | SENIOR ENGINEER

Jun 2014 – Jul 2016 | Mysuru, India

- Built automation devices to reduce human errors in checking compliance to standards and programmed them in C and proved they are effective using statistical tools.
- Programmed electronic energy meters in C to detect various tampers.
- Led a team of five and helped new joiners to learn about the department work flow.

## PROJECTS

### MS THESIS (UNDER REVIEW - ICML 2018)

Individual contribution, Sep 2017 – Present

- Made a connection between Bayesian Neural Networks(BNNs) and regular neural networks in the small variance asymptotic limit and developed an algorithm as a result of that connection

### CONVERSATION RECOGNITION

Individual project, Nov 2017 – Present

- Working to develop a machine learning system using GMM-UBM for Speaker recognition(using MFCC features), decision trees for Voice Activity Detection(VAD) and exploring neural networks for Blind Source Counting(BSC).

### LANGUAGE CHECKER

Team of 5, Sep 2017 – Dec 2017

- Implemented n-grams model from scratch using Java with Laplace and Good-Turing Smoothing to account for missing n-grams and used Stanford Part-of-Speech tagger to refine our language checker.

### IMAGE SEGMENTATION USING VARIATIONAL INFERENCE

Team of 3, Jan 2017 – May 2017

- Performed inference by considering individual pixels in an image to have a latent structure using variational inference by defining conditional distribution of data to be multivariate Gaussian, Dirichlet and Gaussian-Wishart priors over mixture weights and Gaussian model parameters respectively.

### IMAGE COMPRESSION USING DEEP LEARNING

Team of 3, Jan 2017 – May 2017

- Implemented fully convolutional autoencoders, recurrent convolutional autoencoders and Generative Adversarial Networks(GANs) for lossy image compression and compared results against JPEG.

### NEURAL NETWORKS IN C

Team of 2, Jan 2017 – May 2017

- Implemented Multi Layer Perceptron (MLP) from scratch in C using pointers with speed up achieved through SSE Intrinsics, OpenMP and CUDA.