

# Shankar Venkitachalam

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## EDUCATION

### UNIVERSITY OF MASSACHUSETTS AMHERST

MS IN COMPUTER SCIENCE  
Expected May 2019 | Amherst, MA

### NATIONAL INSTITUTE OF TECHNOLOGY CALICUT

BTECH IN COMPUTER SCIENCE  
May 2012 | Calicut, India

## COURSEWORK

### GRADUATE

Advanced Machine Learning  
Neural Networks  
Natural Language Processing  
Reinforcement Learning  
Advanced Algorithms

### UNDERGRADUATE

Data Structures and Algorithms  
Design and Analysis of Algorithms  
Advanced Topics in Algorithms  
Software Engineering  
Artificial Intelligence  
Image Processing

## SKILLS

### LANGUAGES

Python  
Java  
C++  
JavaScript

### MACHINE LEARNING

Tensorflow  
PyTorch  
Caffe  
Keras  
Scikit-Learn  
OpenCV  
Apache Spark

## INTERESTS

Machine Learning  
Natural Language Processing  
Computer Vision

## EXPERIENCE

### ADOBE SYSTEMS | DATA SCIENCE INTERN, ADOBE SENSEI

May 2018 – Aug 2018 | San Jose, CA

- Developed anomaly detection models for Creative Cloud marketing data.

### SNAPDEAL | SENIOR SOFTWARE ENGINEER, MACHINE LEARNING

Dec 2015 – Mar 2017 | Bangalore, India

- Developed a product classification system that predicts categories based on the title and other text data of the product.
- Used deep learning models to create an Image Quality Control System that classifies and filters images based on blurriness, image quality and presence of objectionable content.
- Built an Apache Spark pipeline for feature extraction, clustering and nearest neighbor computation of catalog images, reducing the processing time by over 50%.
- Implementations were done using Python, Caffe, Scikit-learn, Keras and OpenCV.

### ADOBE SYSTEMS | MTS II, SOFTWARE DEVELOPMENT

Aug 2013 – Nov 2015 | Bangalore, India

- Core member of the team that created Adobe Captivate Prime, a cloud based learning management system.
- Participated in the development process from ideation and conceptualization to product release.
- Designed, developed and maintained the content management server, which imports the content, converts it to required format and extracts metadata.
- Used Java, Spring Framework, JavaScript for implementations.

### TEJAS NETWORKS | SOFTWARE ENGINEER. R&D

Aug 2011 – Aug 2013 | Bangalore, India

- Implemented MPLS-TP protocol on network switches.
- Used C, C++ for implementations.

## RESEARCH & PROJECTS

### INFORMATION EXTRACTION & SYNTHESIS LAB | UMASS AMHERST

Oct 2017 – Present | Amherst, MA

- Working with Prof. Andrew McCallum on Structured Prediction Energy Networks (SPENs), a novel architecture for structured prediction, where the prediction is done by energy minimization using neural networks and gradient based methods. Currently working on using SPENs for unsupervised tasks in NLP.

### MACHINE READING COMPREHENSION | UMASS AMHERST

Oct 2017 – Dec 2017 | Amherst, MA

- Developed a machine learning model that, given a text document and a question based on the document, predicts an accurate answer.
- We used a bidirectional LSTM model with attention mechanism and achieved an F1 score of 50.7 on the Stanford Question Answering Dataset (SQuAD).

### QUASI-RANDOM METHODS FOR HYPER-PARAMETER OPTIMIZATION | UMASS AMHERST

Oct 2017 – Dec 2017 | Amherst, MA

- Investigated quasi-random approaches such as Poisson Disc Sampling for hyper-parameter optimization as an alternative to grid search.
- These methods provide a better sampling of the important hyper-parameters than grid search, while giving a better coverage of the hyper-parameter space than pure random search.