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Education

| **Masters in Computer Science** | **Johns Hopkins University** | **Expected : May 2020** |

- *Course Assistant* for Object-Oriented Software Engineering.
- **Coursework:** Machine Learning: Deep Learning, Probabilistic Models of the Visual Cortex, Neuro Data Design.

| **Bachelors in Computer Science** | **Anna University** | **May 2016** |

- **Thesis:** *Automated Scenario Description for Images* - built an image captioning algorithm using deep learning.
- **Scores:** CGPA: 8.56/10, GRE: 324/340 (Quant: 169/170), TOEFL: 116/120.

Experience

| **Software Engineer** | **Qube Cinema Technologies** | **Jun 2016 – May 2018** |
| *iCount, Dispatcher & Theatre-sync Bot* | | *Manager: Rajesh Ramachandran (CTO)* |

- Designed and developed a scalable viewer-demographics mining engine, using Convolutional Neural Networks, that can extract information such as count, age, and gender of the movie watchers from low-light images of a theatre's auditorium. The resulting deep-learned model had an accuracy of 99%.
- Architected and built a real-time resource allocation and optimization algorithm for making logistical business decisions intelligently and maximizing profits, based on Minimum Cost Flow (Transportation) Problem and Pruned Search Trees.
- Developed a bot for automatically syncing theatre databases across the globe, into one unified format, using Word2Vec.

| **Research Assistant** | **Institute of Mathematical Sciences** | **Dec 2015 - Dec 2017** |
| *Optical Character Recognition on Indus Scripts* | | *Advisor: Prof. Ronojoy Adhikari* |

- Architected and implemented a deep-learned Optical Character Recognition engine that can recognize the 417+ Indus script symbols from images of ancient Harappan civilization artifacts. This was built based on GoogLeNet, Transfer Learning, and Selective Search, and it classifies the most frequent symbol - the Jar sign, with an accuracy of 92%.
- Published this work as a research paper titled "*Deep Learning the Indus Script*", (arXiv:1702.00523v1). Moreover, this work was also published as news articles in *The Verge*, *The Hindu*, *Times of India*, and *SBS Radio - Australia*.

| **Data Scientist - Intern** | **Serendio Inc.** | **May 2015 - Jul 2015** |
| *DisKoveror - Text Analytics* | | *Manager: Ravi Condamoor (CEO)* |

- Implemented a universal multi-domain sentiment scorer for text, that supports 36 domains and has an accuracy of 90%.
- Engineered a topic modeling algorithm using hierarchical K-Means and semantic word clusters, with an accuracy of 80%.
- Designed an internet-slang text parser that normalizes 6 different artifacts ranging from acronyms to emoticons.

| **Research Intern** | **Carnegie Mellon University** | **Nov 2014 - Dec 2014** |
| *Text-based Emotion Recognition System* | | *Advisors: Prof. Bhiksha Raj & Prof. Rita Singh* |

- Built a classification model for assigning emotion labels to text data, using histograms built over Word2Vec word/phrase clusters. This model can classify the 7 basic emotions with an accuracy of 90.9%.

Projects

- **Distributed Panorama Construction of High-Resolution UAV Images Using Public Compute Nodes**: This system was developed for the *Indian Space Research Organization*, as a part of the Smart India Hackathon 2018. Our team won the 1st place and a cash award of Rs.100,000, in this nation-wide hackathon. It was covered by *The Hindu* & *Times of India*.
- **Universally Compatible and Accessible, Software Controlled, Expandable Home Automation System, for Energy Conservation and the Differently-Abled**: This research project was funded by the Innovation Center at the *Sri Sivasubramaniya Nadar College of Engineering* (SSN CE, affiliated to Anna University). It was also published as a paper titled: "*Home Automation Systems - A Study*" in IJCA (cited 35 times). Indian Patent Ref. ID: 5729/CHE/2015.

Leadership & Achievements

- **Merit Scholarship** (Full), for *Excellence in Academics*, worth Rs.105,000, SSN CE.
- **Microsoft Research** certified, for proficiency in "*Design and Analysis of Algorithms*".
- **Government of India**, *Industry Mentor*, for 2 consecutive years at the *Smart India Hackathon* (world's largest).
- **Association for Computing Machinery (ACM)**, *Chairman* (2015-16), *Treasurer & Tech Lead* (2014-15), SSN CE.
- **Outstanding Student Organizer Award** (2016), *ACM Student Chapter*, SSN CE.

Skills

- **Languages:** Python, Java, C, C++, R, VB.Net.
- **Others:** Caffe, TensorFlow, Keras, OpenCV, Scikit-Learn, Gensim, NLTK, Flask, AWS, Git, Docker, Linux.