

Education

Masters in Computer Science	Johns Hopkins University	May 2020 (Expected)
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- 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
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- **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
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- 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
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- 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.
 - **Media Coverage:** *The Verge, The Hindu, Times of India, and SBS Radio - Australia.*

Data Scientist - Intern	Serendio Inc.	May 2015 - Jul 2015
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- 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.
 - Serendio's Campus Ambassador at Sri Sivasubramaniya Nadar College of Engg. (SSN CE, affiliated to Anna University).

Research Intern	Carnegie Mellon University	Nov 2014 - Dec 2014
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- 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 Imagery Using Public Compute Nodes:** This 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.1,00,000, in this nation-wide hackathon. This was covered by *The Hindu* and *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 SSN Innovation Center and published as a paper titled: "Home Automation Systems - A Study" in IJCA (cited 35 times). An Indian patent has also been filed.

Awards & Leadership

- **Merit Scholarship** (Full) for Excellence in Academics, 1st Year, worth Rs.105,000, SSN CE.
- **Microsoft Research** certified, for proficiency in "Design and Analysis of Algorithms".
- **Industry Mentor** for 2 consecutive years at the Smart India Hackathon (world's largest), **Government of India**.
- **Chairman** (2015-16), **Treasurer & Tech Lead** (2014-15), Association for Computing Machinery (ACM), 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, Android.