Sree Theerdha Charugundla

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Interests: Deep Learning, Artificial Intelligence, Computer Vision, Robotics

Education

2015 - 2020(Expected)	B.Tech and M.tech (Dual Degree) Major: Computer Science and Engineering Micro : Intelligent Learning System Design	**Indian Institute of Technology** **CGPA: 9.43/10** **CGPA: 10/10**
2015	Higher secondary Education	**Percentage: 98.5/100**
2013	secondary Education	**GPA: 9.8/10**

Computer Skills

Proficient: C/C++, Java, OpenCV, Git, Verilog, LaTeX
Intermediate: Python, Matlab, PHP, html, CSS, MySQL, ROS, TensorFlow

Internships

Ongoing
Prof.Plaban Bhowmick

NAME DISAMBIGUATION USING RNN(LSTM) AND HIDDEN MARKOV MODELS
National Digital Library, IIT Kharagpur

- Normalized noisy Author names in NDL metadata by sequence-to-sequence learning with a long short-term memory (**LSTM**)-based recurrent neural network(**RNN**) model
- Implemented **Hidden Markov model and a K-Means Learner** and predicted the title sequences using Viterbi algorithm.
- Techniques like **Laplace smoothing, Kernel Regression, Absolute Discounting**, Jaro-Winkler distance prediction were used.

June 2016 - July 2016

OPEN SOURCE FRAME WORKS (YII) AND MySQL STORED PROCEDURES
Idea Entity Solutions , Hyderabad
Developed a content management system for storing articles. Front end included HTML,CSS and Back end was developed using PHP and MySQL.

Projects

Jan 2017-Present
Prof. Pallab DasGupta

DECENTRALIZED TERRAIN EXPLORATION WITH ROBOT SWARMS
Swarm Robotics Group, IIT Kharagpur
Ideated to design a team of co-ordinating robots which use swarm intelligence to achieve a number of objectives related to navigation and mapping.

- Designed a simulator for robots using **OpenCV**.
- Developed path planning algorithms using **Artificial Potential Fields** for obstacle avoidance of the robots.
- Used OpenCV algorithms like **SURF, SIFT** for feature detection and **FLANN** for feature description and matching. Working on 3D image stitching for creating 3D map of an indoor environment

July 2017- Present
Prof. Plaban Bhowmick

INTELLIGENT CITY BUILDER
Ideated to design a game where the player needs to build a green city optimizing his trade and profit.

- User's actions change the environment parameters and calamities trigger based on those parameters.
- The intelligent agent also builds the city by optimizing the cost function.
- Artificial Intelligence techniques like **Reinforcement Learning, state-space search , Bayes model** for various parameters and **fuzzy logic** are being used.

Projects

December 2016 | IEEE WORKSHOP

IMAGE PROCESSING USING OPENCV

- Learned and implemented various concepts like image traversal, **Color Extraction, Filters, Edge Detection, Noise Reduction, Blob Detection, Hough Transform, Contour Detection, Template Matching, Path Planning using A*.**
- Successfully counted the number of people entering a room and leaving the room from a video clip using face detection techniques

Jan 2017 - April 2017 | Prof. Pralay Mitra

COMPILER FOR MINIMATLAB
IIT Kharagpur

- Designed a compiler for MiniMatlab(A shorter version of matlab) which makes use of the International Standard to support basic arithmetic and matrix operations
- Designed regular expressions and used **Flex** tool to create a lexical analyzer
- Designed Phrase structure and used **Bison** tool to create a Parser
- Three address code and target code generation were done for machine specific translation

Jan 2017 - April 2017 | Prof. Sudip Misra

AIRLINE MANAGEMENT SYSTEM
IIT Kharagpur
Developed an Airline Management System that helps the users to book flights without visiting offline booking counters, using **Java swing** including OOP concepts and file Handling, as part of Software Engineering course

Novemeber 2016 | CODE.FUN.DO

WEB ALARM - A WEB APPLICATION
Developed a web application that restricts its user from accessing a particular website for specified time as a part of Coding competition organized by Microsoft. HTML, CSS were used for the front end and JavaScript for the back end. Azure Services were also deployed for the project.

Relevant Coursework

Machine Learning*
Operating Systems (Theory and Laboratory) *
Artificial Intelligence
Intelligent Game Design
Compilers (Theory and Laboratory)
Database Management Systems*
Computer Networks (Theory and Laboratory)*
Intelligent Tutoring System
Probability and Statistics
Software Engineering (Theory and Laboratory)
Computer Organization and Architecture (Theory and Laboratory)*

Online Courses

Convolutional Neural Networks for Visual Recognition **(CS231n, Stanford)**
Computational Motion Planning (COURSERA)
Machine Learning Tom Mitchell (Carnegie Mellon University)

* Ongoing Courses

Academic Achievements and honours

- Changed my department to Computer Science and Engineering from Electronics and Electrical Communication Engineering with an **Institute Rank of 2** by the end of first semester.
- All India Rank 960 in IIT JEE Advanced 2015
- All India Rank 119 IIT JEE Main 2015

Interests and Activities

- Programming mentor for first year students at Student Welfare Group, IIT Kharagpur
- Volunteer at National Service Scheme, India.
- Junior Associate, Entrepreneurship Cell IIT Kharagpur.
- Actor and Script Writer, Prasthanam-Technology Dramatics Society