## **GAUTHAM KRISHNA GUDUR**

#### **Research Assistant**

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## **EXPERIENCE**

# Research Assistant Solarillion Foundation

Feb 2016 - Ongoing

• Chennai, India

- Led a team of four to develop a Human Activity Recognition system robust to mobile-sensing heterogeneities using Deep Learning.
- Developing a real-time Occupancy Prediction engine for a show in collaboration with one of the top 3 movie multiplex chains in India.
- Led a team of five and worked on a Dynamic Gesture Recognition system using accelerometers with Machine Learning approaches.

# Teaching Assistant Solarillion Foundation

Han 2017 - Ongoing

♥ Chennai, India

 Mentored students by helping them develop their approach towards problem-solving and taught them fundamental concepts in programming and embedded systems.

# Undergraduate Student Researcher SSN College of Engineering

## Feb 2015 - Mar 2017

- Chennai, India
- Worked on a funded HCI research project of Neurocinematics, where real-time cognitive responses of film viewers are captured using EEG.
- Worked on choosing the best-suited mote for two IoT scenarios, by analyzing their RPL performance metrics on a Contiki testbed.

## **PUBLICATIONS**

#### Conferences

- "A Generic Multi-modal Dynamic Gesture Recognition System using Machine Learning." Accepted at IEEE Future of Information and Communication Conference (FICC 2018), Singapore.
- "Electroencephalography Based Analysis of Emotions Among Indian Film Viewers." Presented at International Conference on Advanced Informatics for Computing Research (ICAICR 2017), Springer.
- "Analysis of Routing Protocol for Low-power and Lossy Networks in IoT Real Time Applications." Presented at 4th International Conference on Recent Trends in Computer Science & Engineering (ICRTCSE 2016), Procedia Computer Science, Elsevier.

## Poster

 "Neurocinematics: The Intelligent Review System." Presented at 3rd International Conference on Cognition, Brain and Computation (CBC 2015), IIT Gandhinagar.

## **EDUCATION**

#### **B.Tech in Information Technology**

# Anna University (SSN College of Engineering)

**Q** Chennai, India

Cum. GPA: 7.41/10 - First Class

#### HSC (Class XII)

#### **DAV Higher Secondary School, Gill Nagar**

**Q** Chennai, India

Scored an overall of 94.25%

## AISSE (Class X)

#### **SBOA School & Junior College**

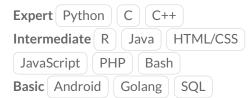
🛗 Grad. May 2011

Chennai, India

Cum. GPA: 10/10

## **SKILLS**

#### **Programming**



#### Hardware & Software

Arduino	Raspberry Pi		NA	S	MEX
Linux (Ubuntu)		Contiki OS		Octave	
Git Microsoft Office Suite			ite		

#### **Tools & Frameworks**

Numpy	Scipy	Pandas	Keras		
PyTorch	Scikit-Learn		TensorFlow		
Flask	AWS				

## **AREAS OF INTEREST**

## NOTABLE PROJECTS

## Movie Occupancy Prediction Engine **Solarillion Foundation**

Sep 2017 - Ongoing

Tools & Framework: Python | Pandas | MS-SQL | Scikit-Learn | PyTorch Extracted nearly 10 TB of transactional data (over past 5 years) using AWS, structured them using MS-SQL & extracted behavioral features to forecast show occupancy of a movie. Currently working on deploying an application into production.

## Intelligent Bus Stop Recognition System Undergraduate Thesis, SSN College of Engineering

## Jan 2017 - Apr 2017

Language & Platform: Python | Numpy | Anaconda | RaspberryPi Zero Developed a recognition engine on a RaspberryPi Zero platform that automatically identifies bus stops using images acquired from cameras placed on a bus using a hybrid nearest-neighbor classifier.

#### **Gest-Face**

#### **Personal Project**

Language & Framework: Python | OpenCV | HaarCascade | PyQt5 Developed a Gesture/Facial recognition system that can recognize gestures, as well as detect the number of faces of users in real-time. The system was rendered as an application using PyQt5.

## **Deep Learning Projects** Online Coursework & Kaggle

May 2017 - Ongoing

Language & Framework: Python | Numpy | PyTorch | Tensorflow

- Deep Dream and Image Captioning with CNN, RNN using LSTM.
- Grasp-and-Lift EEG Detection from Kaggle (HCI)
- Street View House Numbers from Google (CV)
- notMNIST (CV)

## Real-Time Sentiment Analyzer of Twitter Trends **Personal Project**

Language & Framework: Python | NLTK | Scikit-Learn | Tweepy | PyQt5 Implemented an application that gives the live Twitter trend graph of a tweet using an ensemble voting and a TextBlob classifier. The real-time mood (pos/neg) of the scraped tweets is presented to the user.

## Speed Control of DC Motor using Arduino **Solarillion Foundation**

₩ Feb 2016

Platform & Hardware: AtMega328 | 12V DC Motor | IR Sensor Devised a feedback based algorithm using Proportional controller to automatically self-stabilize the error between Reference speed and Measured speed ( $\pm 4$  RPM) of a 12V DC Motor with external load.

## COURSEWORK

#### **Undergraduate**

- Programming & Data Structures: I & II
- Operating Systems
- Database Management Systems
- Design & Analysis of Algorithms
- Artificial Intelligence
- Compiler Design
- Data Warehousing & Data Mining
- Grid & Cloud Computing
- Data Analytics

#### Online Certifications (MOOCs)

University of Washington | Coursera

Machine Learning Specialization (4 courses)

A Case Study Approach Regression

Classification | Clustering & Retrieval

- Stanford University | Coursera Machine Learning
- UC-San Diego | Coursera Algorithmic Toolbox Data Structures
- John Hopkins University | Coursera R Programming

## **ACHIEVEMENTS**

#### Scholastic

- 97th percentile in HackerRank (Algorithms Domain)
- Undergraduate Financial Research Grant of INR 24,000 by College Management
- Certification of Merit for Grade A1 in all subjects in AISSE
- Top 10 percentile in 42<sup>nd</sup> National **Mathematics Talent Competitions**
- 86<sup>th</sup> percentile in 13th National Science Olympiad (NSO)

## Non-Scholastic

- Division/State Badminton Player (Under-19)
- Event Organizer of "Data Nuggets" a Data Science event, Invente2k16
- Completed all 10 levels of UCMAS Mental Arithmetic (Abacus)
- 29th Rank overall in Grade 3 Keyboard