GAUTHAM KRISHNA GUDUR

Artificial Intelligence Engineer & Researcher

@ gauthamkrishna.gudur@gmail.com +91 969.814.1161 12-May-1996 in linkedin.com/in/gauthamkrishna-g
Chennai, INDIA gauthamkrishna-g.github.io github.com/gauthamkrishna-g </> hackerrank.com/gauthamkrishna_g

EXPERIENCE

Machine Learning Engineer

SmartCardia SA

May 2018 – Ongoing Chennai, India

Currently working on developing insightful machine learning models and engineering features for real-time tracking and analysis of various biomarkers in patients.

Research Student & Teaching Assistant

Solarillion Foundation

Feb 2016 – Ongoing Chennai, India

- Co-led a team of four to develop a Human Activity Recognition (HAR) 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.
- 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

- Prahalathan Sundaramoorthy, Gautham Krishna Gudur, Manav Rajiv Moorthy, R Nidhi Bhandari, Vineeth Vijayaraghavan, **"HARNet: Towards On-Device Incremental Learning using Deep Ensembles on Constrained Devices"**, 2nd International Workshop on Embedded and Mobile Deep Learning (EMDL '18), ACM MobiSys 2018).
- Gautham Krishna G, Karthik Subramanian Nathan, Yogesh Kumar B, Ankith A Prabhu, Ajay Kannan, Vineeth Vijayaraghavan, **"A Generic Multi-modal Dynamic Gesture Recognition System using Machine Learning"**, IEEE FICC 2018.
- Gautham Krishna G, Krishna G, Bhalaji N, **"Electroencephalography Based Analysis of Emotions Among Indian Film Viewers"**, Advanced Informatics for Computing Research, Springer, ICAICR 2017.
- G Gautham Krishna, G Krishna, N Bhalaji, **"Analysis of Routing Protocol for Low-power and Lossy Networks in IoT Real Time Applications"**, Procedia Computer Science, Elsevier, ICRTCSE 2016.

EDUCATION

B.Tech in Information Technology

Anna University

Grad. Apr 2017 Chennai, India

Cum. GPA: 7.41/10 - First Class

HSC (Class XII)

DAV Higher Secondary School, Gill Nagar

Grad. May 2013 Chennai, India

Scored an overall of 94.25%

RESEARCH INTERESTS

Machine Learning · Deep Learning · Data Science · Internet-of-Things · Computer Vision · NLP · HCI · AI in Health-care · Cognitive Computing · Pervasive & Ubiquitous Computing

SKILLS

Programming

Expert Python · C · C++

Intermediate R · Java · HTML/CSS · JavaScript · PHP · Bash · SQL

Basic Android · Go

Hardware & Software

Arduino · Raspberry Pi · LaTeX · Git · Linux Distros · Contiki OS · Octave

Tools & Frameworks

Numpy · Scipy · Pandas · TensorFlow · Keras · PyTorch · Scikit-Learn · NLTK · OpenCV · Flask · Weka · AWS

REFEREES

Vineeth Vijayaraghavan - vineethv@ieee.org
Director, Solarillion Foundation

Prof. Srinivasan R - srinivasanr@ssn.edu.in
Professor, SSN College of Engineering

Prof. Bhalaji N - bhalajin@ssn.edu.in
Assoc. Professor, SSN College of Engineering

Poster

- N Bhalaji, G Krishna, G Gautham Krishna, **"Neurocinematics: The Intelligent Review System."**, 3rd International Conference on Cognition, Brain and Computation (CBC 2015), Indian Institute of Technology (IIT), Gandhinagar.

NOTABLE PROJECTS

Movie Occupancy Prediction Engine

Solarillion Foundation

Sep 2017 – Ongoing

Tools & Framework: Python | Pandas | MS-SQL | Scikit-Learn | PyTorch
Extracted terabytes 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 a beta application into production.

Intelligent Bus Stop Recognition System

Undergraduate Thesis, SSN College of Engineering

Jan 2017 – Apr 2017

Tools & Framework: Python | Numpy | TensorFlow | Raspberry Pi Zero
Developed a recognition engine on a Raspberry Pi Zero platform that automatically identifies bus stops using images acquired from cameras placed atop a bus using a lightweight hybrid nearest-neighbor classifier.

Deep Learning Projects

Online Coursework, Kaggle, Personal

May 2017 – Ongoing

Language & Framework: Python | Numpy | PyTorch | TensorFlow

- TamilNIST: Live Tamil Character Classification (CV)
- Grasp-and-Lift EEG Detection from Kaggle (HCI)
- CIFAR-10, MS-COCO, notMNIST (CV)
- Deep Dream and Image Captioning (CV & NLP)
- Text8 - Wikipedia (NLP)

Gest-Face

Personal Project

April 2017

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

Real-Time Sentiment Analyzer of Twitter Trends

Personal Project

Dec 2016

Language & Framework: Python | NLTK | Scikit-Learn | Tweepy | PyQt5
Implemented an application that graphs the live Twitter trend of an incoming keyword using an ensemble voting and a TextBlob classifier, thereby presenting a real-time mood (pos/neg) of the scraped tweets.

COURSEWORK

Undergraduate

- Programming & Data Structures: I & II
- Operating Systems
- Database Management Systems
- Design & Analysis of Algorithms
- Artificial Intelligence
- Compiler Design
- Data Warehousing & Data Mining
- 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
- **Stanford University**
  CS231n

HONORS & AWARDS

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 42nd National Mathematics Talent Competitions
- 86th 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