

MITHUN

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Skills

Overview

Machine Learning

Android Dev

CUDA

Data Mining

OOP

Statistical Analysis

HPC

MPI

tensorflow

Full-stack App dev.

Raspberry Pi

SQLite

torch

OpenCV

Lua

Git

Shell script

Programming

0 LOC —————> 5000 LOC

C++ • Python • Java

C • MySQL • BASH • MATLAB • \LaTeX

R • tensorflow • Ruby • CUDA

Publications

- M. Chakaravarthi, M. Mathivanan, G.S. Mahalakshmi, J.B. Antony, S. Sendhil Kumar, “**Scene Change Detection Approaches Over UT Interaction Dataset**” in 1st ICRTCCM, published on AJBAS (ISSN:1991-8178), 10(2) 2016, pp. 60-66.
- M. Mathivanan, M. Chakaravarthi and G. S. Mahalakshmi, “**Semi Autonomous Self Balancing Robot**” in 1st ICRTCCM, published on IJCTA (ISSN:0974-5572), 9(2) 2016, pp. 513-519.



Education

2017 - 2019 **M.S., Computer Science** (GPA: 3.9/4.0)

University of California San Diego

2012 - 2016 **B.E., Computer Science** (GPA: 9.42/10)

College of Engineering Guindy, IN



Experience

Dec 2016 -

Software Development Engineer

Flipkart, IN

Aug 2017

- Worked with PhonePe, after it's acquisition by Flipkart. In a team of 5, built an android app. for PhonePe (rated 4.4/5 on Google PlayStore), surpassing 7 million users nationwide within a year since launch.
 - Built end to end features such as contact sync and payment reminders.
- Tools** - Android Studio, Gitlab, Phabricator, SQLite, Docker, Aerospike, MySQL

Jun 2016 -

Software Engineering Intern

PhonePe, IN

Dec 2016

- Built app-side integration for a BLE based point of sale device for PhonePe. The solution provides several layers of security to ensure merchant and customer transaction safety.
- Tools** - Bluetooth Low Energy, Services & Fragments, Transition library.

Jun 2015 -

Teaching Assistant

College of Engineering Guindy, IN

Mar 2016

- Handled post-class discussion sessions on topics in C/C++, Data Structures & Algorithms for juniors.
- Prepared interactive presentations & explanatory examples and came up with challenging questionnaires & pop-quizzes for students.



Certifications

- Machine Learning by Stanford University** - offered by Coursera by Andrew Ng.
- Oracle certified Web Component Developer using Java EE** - Completed the certification as a part of Oracle's Workforce Development Program.
- Ranking 6th in the undergraduate entrance examination** - among 700,000 aspirants who wrote the exam in 2012.



Projects

- Predicting LCA approval for H-1B Visa Petitions in the U.S.** - Engineered features and experimented Logistic Regression, AdaBoost and Random Forests to predict whether an applicant would be certified by the LCA for the H-1B lottery selection and achieved a maximum accuracy of 74.9%.
Tools - python, numPy, pandas, scikit-learn, matplotlib, seaborn, R, ggplot, \LaTeX
- Parallel Programming for High Performance Computing**
 - Boosted Aliev-Panfilov Cardiac Simulator using MPI in multicore processors.
 - Boosted Double-Precision Matrix multiply using CUDA enabled GPU and fast memories on the host. **Tools** - MPI, C/C++, CUDA, BASH, python, OpenMP, Excel
- KRYSTAL - An AI guidance system for the visually impaired** - Designed and built a wearable that runs on Raspberry Pi 3. The backend implements two consecutive deep neural networks (CNN+RNN) that is trained to describe the scene in front of the user using natural language in real time. **Tools** - RPi 3, Ultrasonic sensors, RPi Cam, lua, torch, tensorflow.
- Human Activity Detection from UT Interaction dataset** - In this project we trained a part-based model to segment and obtain stickmen coordinates and then classify human actions - such as kicking, walking, punching etc., - from a video feed.
Tools - MATLAB, OpenCV, Image Processing Toolbox, Naive-Bayes, SVM
- BalaPI - Two wheeled self-balancing robot** - This bot built on Raspberry Pi 2, maintains its balance using artificially intelligent PID tuning techniques coupled with Kalman and complementary filtering. The motors help the bot move back and forth like an inverted pendulum.
Tools - RPi 2, RaspbianOS, IMU and IR sensors, Gyroscope, python