

ASHKAR YOOSUF

Computer Science and Engineering Undergraduate

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RESEARCH AND PROJECTS

Parallel Densest Subgraph Discovery

Addressing the lack of efficient parallel algorithms for the problem of densest subgraph finding. Formulated a shared memory version of the existing best distributed memory version (Algorithm of $(2+\epsilon)$ - approximation). Devised two novel algorithms - one serial and the other parallel - which empirically produces a $(1+\epsilon)$ - approximation within polynomial time as opposed to the exact algorithm which has an exponential time complexity

Mar 2019 - Nov 2019

C | C++ | Valgrind | SNAP | Ligma | OpenMP

Dermatological Disease Detection

Done without use of Machine learning libraries in order to get a hands-on on the inner workings of Neural Network formation and related algorithms. Produced a prediction accuracy of 85% on a balanced dataset of 10 diseases. This also involved edge linking and segmentation components for the purpose of extracting the disease image.

Jan 2017 - May 2017

Machine Learning | Computer Vision | Matlab

File Ingestion Engine

Developed an ETL tool for a data analysis and insights providing platform targeting non tech savvy users. Programmed the data domain classification component of Data Sense Engine.

Jun 2018 - Dec 2018

Python | Celery | RabbitMQ | AWS | MongoDB | scikit-learn | Pandas

Drop Location Recommendation

This is part of a popular cab hailing app in Sri Lanka. Recommends drop locations for the users based on their past usage.

Feb 2020 - Present

Python | Scala | Java | Big Data Eco-System | Data Mining

Predicting Dengue Disease Spread

A project in a competition hosted by DrivenData organization. Used Data Visualization and Machine Learning techniques to address the question of whether it is possible to use the correlation of the past data and climate changes to predict an epidemic before it happens.

July 2019 - Oct 2019

Python | ML libraries

EXPERIENCE

Trainee Software Engineer

Zeptolytics (Pvt) Ltd

Jun 2018 - Dec 2018 Union Place

- Project: File Ingestion Engine (see Research and Projects)
- Agile | Documentation | CI | CD

EDUCATION

B.Sc. Engineering (Hons)

University of Moratuwa

2015 - present

CGPA: 3.4/4.0

G.C.E. Advanced Level

St. Sylvester's College, Kandy

2005 - 2014

AAA | D.R: 39

Machine Learning | Deep Learning

Stanford University - Coursera

2018

Introduction to Big Data

UCSD - Coursera

2020

SKILLS & INTERESTS

Java Python C++ C Scala
Matlab Verilog LaTeX

Algorithms Machine Learning
Data Mining Distributed Systems
Big Data

AWARDS

DengAI - DrivenData

📅 2019

- Global Rank: 165/7000+

SLASSCOM 4iR Hackathon

📅 2018

- Runners-up

EXTRACURRICULAR ACTIVITIES

ExMo-Engineering Faculty Exhibition

📅 2017

- Member of Robotics Organizing Committee

Scout

📅 2012

- Chief Commissioner's Award