

VENKTESH KAVIARASAN

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EDUCATION

University at Buffalo, The State University of New York

Feb 2020 (expected)

Master of Science, Computer Science | GPA: 3.25/4.0

Anna University ,India

April 2018

Bachelor of Engineering, Electronics and Communication Engineering | CGPA : 8.01/10

EXPERIENCE

Advanced Computing and Communications Society, India

Nov'16-Jan'17

Project Intern (ARM Design Contest)

- Proposed and built Driving ARM system using IOT and sensor fusion to monitor driving behaviour, analyze fuel efficiency and emission rates using ARM Cortex M0+ KL25Z development platform for TVS Motors R&D.
- Used the NGISM dataset and Gipps car following model to analyze driving behaviours. Performed Linear Regression, SVM and clustering for analysis and thereby achieved 30% more accuracy in predicting driving patterns from data collected through CAN bus and OBD protocols.
- Performed market research and analyzed potential stakeholders for the system and was instrumental in developing a product service system.

PROJECTS

Simple DynamoDB based distributed key-value storage | *Distributed Systems, Socket Programming, Java*

- Developed a simplified version of Amazon Dynamo to implement replicated, distributed key-value storage.
- Accomplished data partitioning, data replication and handled node failures to provide availability and linearizability.

Group Messenger with Total and FIFO Ordering | *Android, Socket Programming, Java*

- Developed a Group messenger app which ensures total and fifo ordering using the ISIS Algorithm.
- Accomplished a peer to peer system which handles node failures.

Social Unrest Event Extraction and Summarization Using Web Mining | *Web Crawling, Scrapy, Information Retrieval*

- Crawled important news websites of India, Indonesia, Thailand based on political unrest data and performed topic classification based on the news.
- Performed Named Entity Tagging, Pos, Tokenization of the crawled articles using Spacy and performed summarization of the articles using Sumy (LSA Algorithm). Evaluated the summaries using ROUGE Metric and performed sentiment analysis.
- Evaluated the mined and constructed automated dataset with the human made ACLED Dataset for accuracy.

Data Aggregation, Big Data Analysis and Visualization | *Hadoop, MapReduce, Tableau, Docker, D3.js*

- Built a Big Data pipeline by crawling data from variety of sources such as Twitter, NY times, Common Crawl.
- Performed data wrangling, feature engineering and analyzed the data using MapReduce Algorithm on HDFS built over Docker. Visualized the result using tableau and D3.js

Implementation of Handwriting Recognition for Forensic Analytics | *Python, Keras, Tensor flow, Neural Networks*

- Performed classification of handwritten digits using Logistic → Deep Neural Networks → CNN → SVM and Random Forest classification models for MNIST dataset (Forensic & Crime Analysis).
- Utilized bagging and boosting techniques to perform ensemble learning of all the models trained to identify the best possible model in-order to deliver accurate predictions, essential for crime identification.

Lines and Coin Detection using Line and Circular Hough Transform | *OpenCV, Python*

- Given an image with horizontal lines, vertical lines and coins, the lines and coins were detected using Hough Transform without using OpenCV libraries which was accomplished by building an intensity accumulator.

SKILLS

Languages: Java, Python, Javascript

Data stores : MySQL, MongoDB, DynamoDB(Basics)

Tools: Eclipse, Android Studio, Git, Docker, Tableau

AI Frameworks: Tensor Flow, Keras, OpenCV

JavaScript Frameworks: React, Node.js, Bootstrap 4, REST

Others: Distributed Systems, Design Patterns

Cloud Platforms: Google Cloud, IBM Watson, AWS EC2

Big Data: Hadoop, MapReduce, Apache Spark, Web Mining

Methodologies: Agile/Scrum, Waterfall

ACTIVITIES & ACHIEVEMENTS

- Server side web development certification using Node.js, Express and MongoDB from Hong Kong University.
- Winners of Brick Hack V RIT's Premiere Collegiate Hackathon for most creative AR Application called Voice Over.