Subject Area Tutor Subject Area Tutor Software Engineer Tempe, AZ Work Experience Subject Area Tutor Arizona State University - Tempe, AZ February 2018 to May 2019 I worked as a Tutor for Computer Science and Mathematics at University Academic Success Programs. I helped students with Python, Java, C++, Object-Oriented Programming and Data Structures, Statistics, Probability, and Calculus. Software Analyst (iOS Developer) Aspire Systems Private Limited - Chennai, Tamil Nadu February 2017 to April 2017 Served as an iOS Developer and worked in the project titled "Oriana Jewellery Shopping". Swift was used to build the application. ? Used Auto Layout to create an Adaptive UI for the application to be compatible to all the iOS devices of various sizes. ? Core Data was used to manage the object life cycle and Web Services was used for serialization I also worked on the project titled 'Secure Content Sharing System', where I used Objective-C to build the application. ? Worked on the applications of MVC and developed a secure system which enables the employees of the client's organization to share the data and files safely and securely within the organization. Journal of Healthcare Technology and Management (IJHTM) March 2016 to January 2017 Worked in a Research Project to identify humans uniquely using ECG signal and submitted a research paper to the International Journal of Healthcare Technology and Management (IJHTM) March 2016 - January 2017 ? The biometric involved extracting the features from the ECG wave using Pattern recognition, Neural Networks, Wavelet transformation, Genetic and Syntactic methods. K-NN and Weighted Thresholding were implemented. ? A detailed procedure for implementing ECG as a biometric was performed and an accuracy of 98% for the standard 24- hour MIT-BIH arrhythmia database was obtained. Faculty in the Amrita-Cognizant Innovation Lab February 2015 to April 2016 in performing a research on Real Time Object Detection and Identification to help the visually impaired. February 2015 - April 2016 ? The outcome of the research is a vision system with audio feedback to assist the visually impaired to grasp objects. ? OpenCV-Python and weighted matrix algorithm was used to find the desired object in the scene ACADEMIC EXPERIENCE Detecting the signs of American Sign Language using data mining techniques - Python, SQLite, Tableau Implemented a model to detect the ASL signs performed by a person using the electromyography, gyroscope, accelerometer, and orientation

readings from the Myo gesture control. Implementation of Column Store Database Management System - Java, SQLite Implemented a database management system that performs structured query language operations effectively on column stores by extending the modules of Java MiniBase. Several tests were performed on the different components of the DBMS and the operation of the components were analyzed. The tests that were performed with B+ Tree were interactive and led to an understanding of the Minibase DBMS. One of the main reasons is that we can access the attribute needed directly instead of querying a whole tuple and, also storage and indexing is simplex due to a single data type. Java Minibase, which is a database module for querying row store was used and extended it to query column store efficiently to perform operations like insert, delete index scan, sort, join Sensor Fusion Image Processing - Android, Python Built two camera sensors (Thermal camera and Color camera) based food recognition Android application by performing Data Collection, Server Design, Android Design and Performance Matric. Cluster computing system for largescale Geospatial Data - Python, Hadoop, Spark, Scala, AWS, SparkSQL, PostgreSQL Analytics was performed on the New York taxi trip dataset by implementing spatial operations on a distributed Hadoop Spark cluster to obtain the top 50 hotspots in the city of New York. Memory usage, CPU usage and execution time from the results obtained in every phase were calculated and notable observations were made. Execution time was reduced by 40 milli seconds, cluster memory was increased by 6% and CPU usage was decreased by 10%. Made use of the taxi dataset and found the hotspot, using something called the z-score or the Getis ord, where the probability of finding a taxi is high. As the data was 300GB, we created 3 nodes in AWS and installed Hadoop and Spark in each of them. Hadoop's HDFS was used for the data store and Spark for processing the data. We collected the boundary data of New York city and used that with the data that was given and got the result using SparkSQL. Implementation of global k-means clustering algorithm - Python, Tableau Implementing the global k-means algorithm that uses an incremental approach in obtaining the original clusters for the given data set. Optimal solution as well as minimization of the clustering were achieved as the algorithm does not heavily depend on the choice of the initial cluster centers. Sequence-to-Sequence Recursive Neural Networks for POS Tagging - Python,

TensorFlow Created a model for a part-of-speech tagger for multiple languages by implementing a bi-directional LSTM. Compared the model with a version of Hidden Markov Model for potential improvements. Achieved accuracies of 95.4% and 94.5% on Italian and Japanese languages respectively. Optimized the algorithm by stacking LSTM hidden layers to increase the depth of the model. Applicant Allocation Algorithm for Homelessness App - Python, Spyder Built an algorithm to assign applicants optimally to organizations that serve the homeless community. Implemented several different AI techniques such as greedy-heuristic search, an optimized max-max algorithm, iterative deepening search to reduce the search space. Used dynamic programming to reduce the run time of the algorithm from exponential to polynomial. Generated solution within 3 minutes up until an applicant pool of size 150 with atleast 80% accommodation. News Search Engine - Java, PHP, Python, Apache Solr, Lucene Implemented a Search Engine with autocomplete, spell checking features and support for snippets along with search results. 15,000 downloaded LA Times web pages are used as the database. Applied PageRank and TF-IDF weighting to rank search results using Solr. Travel and Entertainment Search Web Application - Node.js, Java, JavaScript, AWS Developed a Web application and an Android application that allows users to search for places with advanced filters Results include google map with directions, reviews, photos, information about the place. Built a backed server (hosted on AWS) in Node.js that requests data from relevant Google and Yelp APIs. GAS Search Engine - Python, pickle module Designed and implemented a search engine in Python, to retrieve optimal search results from a restricted data set.

Created a two-layer dictionary to preprocess the database. Data is stored in binary trees, saved as pkl files. Results are provided by searching the query terms on the binary trees with term frequency as the search criteria. Electronic Fund Transfer Android Application - Android, PHP, SQLite, WAMP Built an Android application that allows users to make virtual money transactions with an option for requesting loans and receiving SMS notifications. Hosted backend server written in PHP on a WAMP server. Genetic Algorithm based hybrid attribute selection - Python, MATLAB, R, Weka Proposed and implemented a hybrid approach combining a filter method (Information Gain) and a wrapper method (Genetic Algorithm with a custom fitness function) for

attribute selection of genes in cancer gene data. Proposed hybrid approach produces comparably better accuracy than the standard implementation of the GA. Web Developer Intern Khyateh Consulting Private Limited - Bengaluru, Karnataka December 2015 to January 2016 Developed a Web Application titled 'Social Pillars' using MEAN stack. The Application was intended to help the volunteering organizations utilize the excess food in households, restaurants and social events to serve the poor. Built APIs to read from and write to MongoDB database collections. Used Object oriented programming principles in JavaScript to model the Volunteering Organizations' data. Education Master of Computer Science in Computer Science Arizona State University - Tempe, AZ May 2019 Bachelor of Technology in Computer Science and Engineering Amrita University - Coimbatore, Tamil Nadu May 2017 Skills APACHE SPARK, C++, Hadoop, HTML, JAVASCRIPT Additional Information Technical Skills * Programming Languages: C++, Java, Python, C, R, Swift, Objective-C * Scripts: HTML, CSS, JavaScript (jQuery, Bootstrap, AngularJS, Node.js), PHP * Databases: MongoDB, Oracle SQL, PostgreSQL * Framework and Prototyping tools: Apache Spark, Hadoop, Maven, JDBC, Core Data, Flask, Axure RP, AWS, Tableau

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