VIDHYASAGAR UDAYAKUMAR

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Education

Master of Science in Computer Science *August 2019-May 2021 (EXP.)*
University of Illinois at Chicago, Illinois; *GPA: 3.67/4.0*
***CS411**-Artificial Intelligence I* ***CS418**-Introduction to Data Science*
***CS514**-Applied Artificial Intelligence* ***CS412**-Introduction to Machine Learning*
***CS581**-Database Management Systems*

Bachelors of Engineering in Computer Science *August 2015-March 2019*
Kumaraguru College of Technology, Coimbatore, India; *GPA: 8.06/10.0*

Work Experience

Fourkites, Incorporation, Chennai, India *May 2019-June 2019*
Software Development Engineer – Customer Tools Team
- Devised a feature to upload notification rules in bulk, in order to increase productivity.
- Configured REDIS server to process tasks in background, ensuring smooth flow in front-end.
- Regulated 3 full week pager duty with an average of 96% in completion.
- Worked on and amended existing elasticsearch queries to fetch enhanced results.

Fourkites, Incorporation, Chennai, India *August 2018-March 2019*
Software Development Intern – Address Manager Team
- Designed a new front-end service page by incorporating the HERE maps API.
- Bounded the necessary HERE maps data points in the request parameters.
- Restricted multiple calls to the subsidiary systems unnecessarily.
- Responsible for eliminating two factor authentication for the developing environment.
- Increased the code quality of the address manager API services by writing test cases for each method.
- Updated the tables to store geofence co-ordinates with the JSON data obtained from other internal services.

iTVersity Incorporation, Hyderabad, India *February 2018 -May 2018*
Software Technical Intern
- Prepared and implemented the solutions for CCA 175 certification with test cases logged in the portal.
- Documented the technical FAQs for the Hadoop file system.
- Secured the top place in a python-based evaluation process.

Skills

Programming Languages: C, Python(Numpy, Pandas, Keras, Scikit-learn, Matplotlib, PySpark, PyTorch), MySQL, Ruby, HTML
Web Framework: Django, Ruby on rails
Tools: Git, Netica, JESS (Fuzzy Logic), DB Browser for SQLite
Operating System: MacOSX, Windows, Linux

Academic Projects

Exploratory data analysis on election results 2018 *[Python, Pandas, Numpy, Sklearn]*
- Extracted impacts on Democratic and Republican parties with various quantitative variables.
- Built a K-means clustering model that results with silhouette coefficient as 0.92.
- Implemented a Naive-Bayes classifier with an accuracy of 0.96.
- Implemented lasso regression and obtained a statistical measure R-squared as 0.93.

Energy consumption of a building *[Python, Pandas, Seaborn, Sklearn, Matplotlib]*
- Identified inaccurate records handled them using the principles of data cleaning.
- Feature extraction was performed with the correlation matrix of all variables in the dataset.
- Implemented LightGBM regression and its RMS error value is 0.34.

Gender and face attribute recognition *[Python, Keras, PIL, Pandas, Matplotlib, CV2]*
- Built the base model as Xception convolutional neural network with RELU activation and predefined weights.
- Fine tuned the model by experimenting with dropouts, learning rate, batch size and stopping criteria.
- Achieved 90.04 accuracy and 0.932 f1 score by training over 20 epochs.

Pacman search implementation *[Python]*
- Implemented depth first search, breadth first search, A* search, greedy search, suboptimal search algorithms.
- Implemented minimax pruning, alpha-beta pruning, expectimax algorithms for the adversarial agents.
- Applied value iteration, Q-learning methods to obtain optimal policies for the Markov Decision Process model.

Asynchronous learning agent with user histories *[Django, NLTK, RQ job queue, HTML5]*
- Implemented an asynchronous function to capture and observe the user activities.
- Processed a dataset to train the NLP model for coherent communications with the system.
- Employed a job queue to process the necessary tasks periodically.
- Obtained an accuracy of 0.91 in NLP text classifier.