Aravind Jyothi

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EDUCATION

- University of Southern California, Los Angeles, CA - Master of Science in Computer Science. August' 18 - May' 20
  - *Coursework: Machine Learning, AI, Algorithms, Information Integration on the Web*
- Anna University - MIT, India - Bachelor of Technology in Information Technology August' 14 - May' 18
  - *Coursework: Digital Image Processing, Data Analytics, Database Systems, Web Development*

EXPERIENCE

Schlumberger (USTC) | Sugar Land | *Software Engineering Intern* May' 19 - August' 19

- Implemented multidimensional sampling in Python for sensitivity analysis with methods such n-ary tree, agglomerative clustering, k-means clustering and a design of experiments approach using cartesian products
- Designed search space reduction approaches which have a high reduction ratio and a nearest neighbour search for a particular experiment (scenario) using KDTrees
- Worked with complex parallel processing architecture (Rocket API, SLURM, GCP) to run multiple experiments.

Caratlane | Chennai, India | *Software Engineering Intern* June '17 - August '17

- Improved e-commerce company's recommender system making significant tweaks to reduce error by 20%.
- Built 2 asynchronous webpages with React, HTML, CSS, jQuery & Node.js and performed company's migration from Angular to React.
- Built Restful API in python for internal use such that data is displayed in json when the API endpoint is accessed.

AUKBC Research Centre | Chennai, India | *Research Intern* October '17 - December '17

- Detection of credit card fraud by Generative Adversarial Networks: trained model with 1000+ fraud instances.
- Conceptualised methods to detect cheque fraud along with a team of 3 people.

SKILLS

- ***Programming****:* Python, Java, C++
- ***Web Development:*** HTML, CSS, PHP, Javascript (jQuery, Angular, Node.js, React), Django & Flask
- ***Databases:*** PostgreSQL**,** MySQL, MongoDB, Redis
- ***Frameworks:*** scikit-learn, tensorflow, pytorch, hdfs, gfs, map-reduce framework, YARN, SLURM, rocket API
- ***Cloud and Version Control*** - AWS, Google Cloud, Git, Azure DevOps(VSTS)

RESEARCH EXPERIENCE

Estimation of Air Pollutant in Hyper-spectral Images | Undergraduate Thesis April '17 - May '18

- Devised a innovative system to estimate air pollutants such as Methane and Ammonia in hyper-spectral images.
- Created a deep convolutional network which estimates air pollutant concentration with an accuracy of 91%.

Classifying Brain Waves by Time Series Analysis July '17 - November '17

- Collaborated with Respiratory Research Foundation of India: Government funded research grant of $1000.
- Incorporated time series analysis to train system and predict events such as consciousness and drowsiness by studying brain signals and extracting relevant features using ARIMA model.

Nutritional Facts Analysis using Supervised Learning Approaches December '16 - April '17

- Created a machine learning models (Logistic Regression, Naive Bayes, LDA, CART, SVM and kNN) by extracting features from nutrition data and classified food products into levels of healthiness with an accuracy of 96%.

PROJECTS

News Search Engine January '19 - April '19

- Built a web search engine which indexed hundreds of thousands of news articles from the guardian using Page Rank algorithm and Lucene (Apace Solr)
- The application was built based on Flask and Jinja Templating

Django Blogging App January '19

- Created a blogging website using Python's Django Framework, Jinja Templating, HTML and CSS.
- All the blog posts, user information and author information are stored in database. Multiple authors can write posts according to privileges. Functionalities of the app include - add posts, delete posts, update posts and login validation.

Game Playing based Resource Allocation for Social Organisations December '18

- Resource allocation for two competing social organisations based on a number of factors
- Variant of Min-Max Algorithm was designed such that both organisations maximise the utility value.

Reinforcement Learning based Car Routing November '18

- Markov Decision Process - Value Iteration and Policy Iteration algorithms were implemented to route cars

Mobile Car Control System with Automatic Parking December '16 - February '17

- Led a team of 3 to build a robot car based on DTMF sensor and image processing to automatically park