Preetham Ganesh

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EDUCATION

University of Texas at Arlington Arlington, TX

Master of Science in Computer Science Aug 2019 - May 2021

Coursework: Computer Vision (CSE 6367), Special Topics in Intelligent Systems (CSE 5369), Machine Learning (CSE 6363), Data Analysis & Modeling Techniques (CSE 5301), Advanced Algorithms (CSE 5311), Neural Networks (CSE 5398), Data Mining (CSE 5334).

Amrita Vishwa Vidyapeetham Coimbatore, India

Bachelor of Technology in Computer Science and Engineering Jul 2015 - Apr 2019

Final Year Project: Forecast of Rainfall Quantity and its Variation using Environmental Features. **Awards:** Outstanding Student Award 2019, Dept. of CSE.
Leadership: ***Chair (Head - Operations)***, Association of Students for Computer Science Information Interchange; ***Event Manager***, Anokha Techfest.

SKILLS

Programming	Python, C, C++, R, Java
Packages/Frameworks	NumPy, SciPy, Scikit-Learn, TensorFlow, Keras, OpenCV, Caffe, Pandas, Pickle, Matplotlib, Seaborn

EXPERIENCE

Softsquare Remote

Summer Machine Learning Intern May 2020 - Present

- Developing an application (using Python) for translating speech from one language to text / speech from another language using Deep Neural Networks.
- Developing an application (using Python) for converting English Speech to Word-based American Sign Language using Deep Neural Networks.

Vision-Learning-Mining Research Lab (University of Texas at Arlington) Arlington, TX

Graduate Student Researcher Feb 2020 - Present

- Developing an application (using Python) to retrieve the hand pose from RGB-D images using Machine Learning and Deep Learning supervised algorithms under the supervision of Prof. Vassilis Athitsos.

RESEARCH PROJECTS

SLAM & Cooperative Path Planning in Multi-robotic Dynamic Environment Feb 2020 - Present

- To develop an application (using Python) for multiple robots to achieve a goal and draw a comparison between their performance in a cooperative and non-cooperative environment. The comparison is drawn on variables such as the size of the environment, number of obstacles, and obstacle dynamicity.
- Implemented modified A*, D++, and Simulated Annealing for modeling the robots.

Efficacy of MBT in revamping Stress and Self-Esteem among final year college students involved in placements Apr 2019 - Jan 2020

- Investigated the impact of using Mindfulness-Based Training among the final year college students in reducing stress and increasing self-esteem.
- Performed analysis (using SPSS 19.0) on the data obtained from students during the intervention.

Personalized System for Human Gym Activity Recognition using an RGB Camera (Paper) Sep 2019 - Dec 2019

- Developed a personalized system capable of recognizing a list of gym activities and providing feedback on the correctness of the joint movement in the workout along with the number of repetitions performed by the user with the help of an android application.
- Pre-processed data and implemented various classification models for classifying the gym activity performed by the user. Also, implemented repetition counter module and correctness of workout module using Local Minima analysis and Dynamic Time Warping.

Estimation of Rainfall Quantity using Hybrid Ensemble Regression (Paper) Feb 2019 - Apr 2019

- Estimated rainfall in all the districts of Tamil Nadu, India using ensemble regression methods such as Random Forest which were combined using ensemble techniques such as Stacking and Blending.
- Optimized the ensemble regression methods using hyperparameters such as number of estimators, etc and built both versions of Stacking based hybrid ensemble regression models (repeat = 1 and repeat = 10).

Forecast of Rainfall Quantity and its Variation using Environmental Features (Paper) Sep 2018 - Jan 2019

- Used regression methods such as Polynomial Regression to build rainfall prediction models such as District-Specific model, Cluster-based model, and Generic-regression model to predict rainfall for each district in Tamil Nadu, India.
- Optimized regression methods such as Decision Tree Regression and Polynomial Regression for building District-Specific Model and Generic-Regression Model. Also, analyzed the variation in rainfall in all the districts using cluster-based analysis such as Elbow method.

CERTIFICATIONS

- Deep Learning Specialization (deeplearning.ai), Coursera
- Machine Learning Foundations - A Case Study, Coursera
- Python for Everybody (Python Specialization), Coursera