ALEKHYA DUBA

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Education

Texas A&M University, College Station   08/2021 – 05/2023
M.S. in Computer Engineering (CSE Dept) (***CGPA- 3.66/4***)   *College Station, TX, USA*

Courses: Analysis of Algorithms, Robotics and Spatial Intelligence, Pattern Recognition, Deep Learning, Reinforcement Learning, Software Engineering.

Bhilai Institute of Technology, Durg   08/2010 – 08/2014
B.E. in Electrical and Electronics Engineering (***CGPA- 9.26***)   *Durg, CG, India*

Projects

Real time Traffic Light Detection and Classification for Autonomous Vehicles
Python, TensorFlow, Object Detection, YOLO, CNNs, OpenCV, Image Segmentation, Darknet, GitHub.
- Built a system to detect traffic lights as small as **20x20 pixels** and classify its state in real time using YOLO framework and Bosch small traffic light dataset.
- Designed a pipeline to segment the traffic light images around the bounding box and fed them to a CNN model to obtain an improved classification accuracy of **91% as opposed to 85%** from YOLOv4.

Maximum Bandwidth Path - Graph Theory
Python, Graph Theory, Algorithms, Data Structures, OOPs, GitHub, PyCharm
- Engineered a class to generate random dense graphs representing real-world networks within **8secs**.
- Implemented a custom O(log n) Priority Queue using Max Heap which reduced the time complexity of Dijkstra and Kruskals algorithms in determining Maximum Bandwidth Path.

AdaBoost with CNNs for Class Imbalance in multi class dataset
Python, TensorFlow, MatplotLib, Jupyter, AdaBoost, Keras, TensorFlow, CIFAR-10, GitHub.
- Devised a way to extract imbalanced sub dataset given a balanced dataset for mimicking real life data.
- Implemented and compared performance of AdaBoost with CNNs as base classifiers and single CNN for the case of multi class imbalanced dataset.

Experience

Siemens Advanta   05/2017 – 06/2021
Senior Software Engineer | C#, Visual Studio, TFS, SVN, Leadership, Agile Teams, OOPs.   *Bengaluru, KA, India*
- Oversaw and managed a **team of 3** to successfully deliver a pilot version of desktop and web application.
- Analyzed and reviewed the user stories in every sprint and built elaborated test pyramids.
- Designed and developed a new logical layer on top of exiting framework & increased its efficiency by **35%**.
- Enhanced legacy quality by building an extensive automated project that reduced legacy issues by **90%**.
- Collaborated with 3 agile scrum teams for cross platform testing and reduced production issues by **40%**.
- Mentored and coached **6 associates** for 6 months duration on technical and domain skills.

Tata Consultancy Services Pvt. Ltd.   10/2014 – 05/2017
Database Analyst | SQL, SSRS   *Pune, MH, India*
- Introduced SQL query based reports validation as an improvement over UI test approach and detected **45%** more bugs.

Skills

Programming Languages: Python, C#, SQL.
Developer Tools: PyCharm, Jupyter Notebooks, Visual Studio, Git, GitHub, SQL Server, TFS, VMWare.
Libraries: NumPy, Pandas, Keras, TensorFlow, OpenCV, MatplotLib.

Awards and Recognition

- **Fellowship scholarship award** from CSE department at *Texas A&M University, College Station, TX.*
- **Key player award and SPOT award** for providing outstanding contributions in creating TA user stories. *(Siemens).*
- **Merit Award** for 8th Rank (EEE discipline). *CSVTU*