MONIKA NAGALLA

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EDUCATION

Worcester Polytechnic Institute, MA   Jan 2021 - Present
Master of Science in Robotics Engineering   *GPA: 3.66/4.0*

National Institute of Technology Calicut   Aug 2014-May 2018
Bachelor of Technology in Electronics and Communications Engineering   *GPA: 7.29/10*

SKILLS

Languages: C++,Python, Java Script, HTML5.
Operating Systems: Linux, Windows
Softwares: OpenCV, CARLA, Gazebo, Git, Matlab, GitLab, Jenkins, JIRA

EXPERIENCE

Software Developer, Reliance Industries Ltd   Jul 2018 - Jul 2020
· Python REST API development for Data Modeling Framework.
· Micro-services development for automated integration of GitLab with Data Modeling Framework.
· Full stack development of HLA GEL Analysis and Text Summarization frameworks.
· Agile development using JIRA.

Project Lead, NITC Robotics Interest Group,   Oct 2014 - May 2018
· Statically stable walking Robo Dog with 16 degrees of freedom
· Skinput: A glove that uses SVM to control custom designed music app

PROJECTS

3D Car Object Detection using multi-sensor data   Python, CNN,Efficientnet
· Frustum PointNets architecture requires 2D bounding box labels as one of the inputs for 3D segmentation.
· Replaced Faster RCNN, used for 2D Bouding box estimation in baseline Frustrum PointNets, with EfficientNet.

Explicit Personalized planning for Advanced Driver Assistance Systems in Autonomous Vehicles
                                                                         Python, Carla
· Implemented Second order Beizer curve as local planner with A* algorithm as the global planner.
· Performed Left/Right turn and overtaking tasks by Ego vehicle, by fine tuning of the control parameters of the Beizer curve.

Sum of Absolute Differences(SAD) based stereo vision algorithm: A prototype implementation
                                                                         Matlab,FPGA
· Incorporated SAD combined with DCT and Adaptive Window technique(AWDE) for generating high quality disparity maps.
· Achieved an Absolute Average error/pixel of 5.11 by combining SAD using a varying window, based on the mean absolute difference w.r.t centre pixel, AWDE; .

Unified Data Engineering Framework   GitLab, Python, REST API,HQL
· Developed a one stop framework for data services like Ingestion, Tranform and Consume models from data lake.
· Developed an automated HQL query generator in Flask and integrated with REST API for access by other micro-services.