Rishabh Choudhary

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Github: https://github.com/rishchou

Education

- **University of Maryland, College Park,** *M.Eng (Robotics),* GPA – 3.9/4.0 **Aug 2018 – May 2020**
- **Birla Institute of Technology and Science, Pilani,** *B.E. (Hons), Electrical and Electronics Engineering* **2012 – 2016**

Relevant Coursework: Visual learning and recognition, Natural Language Processing, Computer Vision, Path Planning algorithms, Data structures and Algorithms, Operating Systems, Software development for Robotics, Machine learning.

Experience

Professional Experience

Computer Vision/Deep learning Intern, **Sturfee, *Milpitas, CA*** **Jun – August 2019**

- Synthetic data generation of street and aerial view by navigating the camera in simulated environment in Blender/AirSim for augmented reality applications. The data was also trained and tested over a neural network for alignment of Street view and Aerial Point cloud.
- This project helped Sturfee generate realistic datasets in house without manually collecting street view pictures and reduced the dataset generation cost.

Software Developer, **Cisco systems, Bangalore** **Aug 2016 – Aug 2018**

- Designed and Implemented Adaptive Authentication model using Machine learning for RADIUS Protocol as part of the Cisco Hackathon. Awarded runner-up position for the idea/implementation. [Python]
- Designed and Implemented boot up memory optimization of AAA (Authentication, Authorization and Accounting) module for Routers and Switches to reduce memory usage at bootup by about 30%. [C++]
- Led automation framework for unit testing and integration tests to enhance code quality assurance and boost code coverage of AAA component from 20% to 70%. [SWIFT/C]
- Resolved numerous bugs and deployed new features for the AAA framework.

Research Experience

Graduate Research Assistant, Perception and Robotics Group, University of Maryland **Oct 2018 – May 2019**

- Rendered a 3D scene using Blender to simulate data for visual odometry using event-based cameras.

Project Experience

- Traffic sign detection and classification using computer vision and machine learning [Python] **May 2019**
- Implementation of A* and Dijkstra algorithm for point/rigid robot in a 2D space [Python] **March 2019**
- Turtlebot Roomba walker using ROS and C++ **Oct 2018**
- Object detection using Convolutional Neural Networks [Python] **April 2019**
- Traffic lane detection and tracking using C++ and OpenCV **Sept 2018**

Computer Skills

- **Languages**: C, C++, Python
- **Tools and Libraries:** Github, Linux, GDB debugging, MATLAB, Eclipse, Blender, Unity, Wireshark, Arduino, , Valgrind, OpenCV, PCL, scikit-learn, pandas, numpy, scipy, tensorflow, keras, pytorch, plotly
- **Game Engines/Simulators** - Unity, Blender, Unreal, Microsoft Airsim.
- Deep learning architectures: CNNs, RNNs, Neural Style Transfer, YOLO
- **Software development:** Agile development, Automated/Manual Unit testing, Google Mock/Test framework

Positions of Responsibility

- **Project lead**, Hackaholic (Cisco's annual hackathon) **June 2018**
- **Project coordinator**, IEEE, BITS PILANI. **Aug 2014- May 2015**
- **Teaching Assistant**, Microprocessor and Interfacing course, BITS Pilani **Jan -May 2015**