Rishav

Contact Information

Email : rishkumar2345@gmail.com Website : https://rish-av.github.io/

Education

B.E. Computer Science, Birla Institute of Technology & Science, Pilani *Aug'16 - Jul'20*

Professional Experience

Augmented Vision, DFKI *Kaiserslautern, Germany*
Research Engineer *Feb'21-Present*

— Working with Prof. Dr. Didier Stricker on real time algorithms for precision agriculture. The work involves estimating the precise amount of herbicide/fertilizer needed for crop/weed.
— Status : Designed algorithms for unsupervised cross-spectral stereo matching and growth-stage invariant semantic segmentation. Increased the speed from 1.3 fps to 24 fps on NVIDIA AGX using quantization and knowledge distillation.

Wells Fargo EGS *Hyderabad, India*
Software Engineer *Aug'20-Feb'21*

— Worked with capital markets team of Wells Fargo. Developed an automated real-time tool for monitoring of ETL jobs which previously needed to be monitored manually. *Stack : ReactJS & SpringBoot*
— Coordinated the EPL migration of the trading platform of Wells Fargo.

Publications

[1] Rishav*, Ramy Battrawy*, et. al. DeepLiDARFlow: A Deep Learning Architecture For Scene Flow Estimation Using Monocular Camera and Sparse LiDAR. In *IEEE/RSJ International Conference on Intelligent Robots and Systems* ***(IROS-2020).***

[2] Rishav*,René Schuster*, et. al. ResFPN: Residual Skip Connections in Multi-Resolution Feature Pyramid Networks for Accurate Dense Pixel Matching. In *IEEE International Conference on Pattern Recognition* ***(ICPR-2020)***, **Oral (top 6%)**.

Internships

Chloropy Tech, Singapore
Research Intern *May'20-Jul'20*

— Developed an unsupervised learning algorithm for estimating crop depth (height) using drone videos.
— Assisted in curating the dataset for training the algorithm and later used cross sequence depth consistency to generate quality depth maps.

Augemented Vision, DFKI, Germany
Research Intern *Jun'19-Dec'19*

— Worked on deep learning for end-to-end prediction of scene flow using monocular images and sparse LiDAR measurements.
— The algorithm utilized sparse LiDAR and RGB information and via mutual improvement and significantly improved the performance in regions difficult to match using RGB only. Work was presented at IROS-2020.

Pixxel, Bengaluru
Research Intern *May'18-Aug'18*

— Worked on Deep Learning algorithms for cleaning of bands in hyperspectral images, used google BigQuery for accessing LANDSAT (multispectral) data. Implemented HSID-CNN for denoising hyperspectral images and deployed on google cloud.

Implementation Projects

– Compiler Construction : Compiler for a given language specification in C [code]
– CycleGAN for unsupervised cross spectral stereo matching [code]
- HSID-CNN : 3D CNN based architecture for denoising hyperspectral images [code]

Professional Activities

– Head Teaching Assistant for Neural Networks and Fuzzy Logic for spring semester 2019-2020.
– Team Leader for Project Gyanbodh by Nirmaan Organisation for promoting creative learning amongst kids (2018-2020).
– Senior Member at BITS-ACM, the ACM student chapter at BITS Pilani. (2017-2020)