N DINESH REDDY

PERSONAL DATA

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EDUCATION

JANUARY 2017	Master of sceince in robotics, CMU RI, USA
MARCH 2016	Internship at **Max Planck Institute For Intelligent Systems**, Germany Project: "Multi-View Reconstruction using Neural Networks" Advisor: Dr. Andreas GEIGER
DECEMBER 2013	Master of Science in COMPUTER SCIENCE, **IIIT-HYDERABAD**, INDIA Thesis: "Semantic scene understanding of Dynamic scenes" Advisor: Prof. K MADHAVA KRISHNA
AUGUST 2009	Bachelor of Engineering (hons) in ELECTRICAL and ELECTRONICS **BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE - PILANI** Advisor: Prof. SUMAN KAPUR

PEER-REVIEWED PUBLICATIONS

Nazrul Athar, N dinesh reddy, K madhava krishna. **Dynamic video semantic segmentation using Spatio temporal optimization** *International Conference on Intelligent Robots and Systems(IROS), 2017.(under review)*

N Dinesh Reddy, Amit K Mondal. **Incremental Real-time Multibody VSLAM with Trajectory Optimization Using Stereo Camera.** *International Conference on Intelligent Robots and Systems(IROS), 2016.*

N Dinesh Reddy*, Falak Chayya*, Sarthak Upadhyay, Visesh Chari, Zeeshan Zia and K Madhava Krishna. **Monocular Reconstruction of vehicles : Combining SLAM with Shape Priors**. *IEEE International Conference on Robotics and Automation(ICRA), 2016.*[Project Page]

N Dinesh Reddy, Prateek, Visesh Chari and Madhava Krishna. **Dynamic Body VSLAM with Semantic Constraints.** *International Conference on Intelligent Robots and Systems(IROS), 2015*. [Project Page]

N Dinesh Reddy, Prateek Singhal and K Madhava Krishna. **Semantic Motion Segmentation Using Dense CRF Formulation.** *Indian Conference on Computer Vision, Graphics and Image Processing (ICVGIP), 2014.* **(ORAL)** (10% acceptance rate) [Project Page]

Nazrul Athar, **N Dinesh Reddy**, K Madhava Krishna **Monocular Semantic Motion Segmentation using Dilated Convolutions** *In International Conference on Computer Vision Theory and Applications (VISAPP), 2017.*

Prateek Singhal, Aditya Deshpande, Harit Pandya, **N Dinesh Reddy** and K Madhava Krishna. **Top Down Approach to Detect Multiple Planes from Pair of Images.** *Indian Conference on Computer Vision, Graphics and Image Processing (ICVGIP), 2014.* **(ORAL)** (10% acceptance rate)

SELECTED PROJECTS

Driverless Car Challenge for Mahindra rise prize
Under the supervision of Dr K MADHAVA KRISHNA and Dr.Shanti swarup medasani
We are developing a complete autonomous vehicle suitable for navigation in indian road conditions. The car perception system is developed using the low cast stereo sensors. I have played in integral role in implementing real time SLAM, GPS localization, Object and Road detection algorithms for automating the vehicle. All my publications are associated with the following work. [Video Page]

Facial Expression Detection on wild images using Active shape model
Under the supervision of Dr. Shailesh Kumar, Google INC
Facial expressions convey non-verbal cues, which play an important role interpersonal relations. To increase the accuracy of facial expression detection , we have combined the active shape model with the gabor filter for better prediction. We have shown an improvement in the face detection by combining these features.

Localize of bullet on a target using ultrasonic sensors (LOBOT)
Under the supervision of Major R.K. Panda, SDD, Indian Army
The aim of the project was to localize of bullet on a target (LOBOT) up to an accuracy of 0.5 mm. It involves the detection of the bullet using ultrasonic sensor and localization using mathematical model. This consisted using of outdoor sensors and precision sensors which were difficult to calibrate and was challenging as slight noise can cause a substantial variation in the output.

MINI-PROJECTS

- A Low Cost Mini-Weather Station Texas Instruments MCU design contest.Link
- Developed the product for detecting the amount of glucose in a blood sample for 2 rupee (3.3 cents).
- Developed the product for testing the antibiotic is resistant or sensitive for urinary tract infection.
- Interned at Bhilai Steel plant and worked on AC to DC conversion of power for electrical engines.
- A Quadrotor Platform For Mines detection for Indian Army.
- Line follower bot following a strip of black line with PID integration.

COMPUTER SKILLS

Programming: C/C++, CUDA, Python, MATLAB, JAVA, PL-SQL, VERILOG
Libraries: TensorFlow,Torch, OpenCV, ROS, Torch, PCL,VLFEAT,ARDUINO.
Software packages: Xilinx, PSpice, MATLAB, Arduino IDE ECLIPSE, SQL DEVELOPER, AUTOCAD.
Web Tools: HTML, JavaScript, PHP, SQL

COURSEWORK

MACHINE LEARNING	MOBILE ROBOTICS	ARTIFICIAL NEURAL NETWORKS
INTRO TO ROBOTICS	COMPUTER VISION	OPTIMIZATION METHODS

HONOURS AND AWARDS

- Invited talk at perceiving systems group, Max planck Institute,Tubingen on 02-10-2015
- Microsoft Research Travel grant to attend IROS 2015.
- IROS student scholarship to attend IROS 2015.
- Head of the technical team of the technical-cultural fest of BITS Hyderabad, Pearl 2012.
- Finalist of the TI MCU Design Contest 2012 INDIA
- First place in the Line Follower at technical fest of NIT Warangal, Technozion 2011.