Anurag Bansal

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EDUCATIONAL QUALIFICATIONS

University of Maryland – College Park, MD	Expected Dec 2018
Master of Engineering in Robotics	GPA – 3.74/4.0
University of Mumbai – Mumbai, MH	Aug 2014
Bachelor of Engineering in Electronics with *First Class Honors*	

SOFTWARE PROFICIENCY

Languages - C, C++, Python, MATLAB, LATEX
Softwares - ROS, MATLAB, OpenCV, PCL, Gazebo, RViz, Eclipse, Tensor Flow, Caffe, CUDA, Arduino, WinAVR, Visual Studio, SIMULink

PROJECTS

Autonomous Driving Car
- Developed various modules for autonomous driving car like Lane Detection, Traffic Sign Recognition, Vehicle Detection and Tracking, and Visual Odometry on MATLAB as part of Perception for Autonomous Robots course projects

Machine Learning Algorithms
- Implemented face recognition using Naïve Bayes and KNN classifier and evaluated its performance with and without dimensionality reduction techniques like PCA and LDA
- Implemented digit recognition (MNIST dataset) using Support Vector Machine (SVM) classifier and LeNet5 architecture
- Evaluated and compared the performance of various clustering algorithms like K-Means, Spectral Clustering and 2D Gaussian Mixture Model

Coursework Projects – **Structure from Motion, Q-learning for Tic Tac Toe agent,** A*, **Weighted A***, **RRT**, **RRT** for **non-holonomic systems**, **SLAM** for Turtlebot by Clearpath Robotics, **Kitting Operation using UR10, Decoupled Path planning for Warehouse material handling robots, BRAT – Bipedal Robotic Articulating Transport**

PROFESIONAL EXPERIENCE

Lucid VR Inc. (Santa Clara, CA)

Computer Vision Engineer Intern   Aug 2018 – Current
- Patch-Based Confidence Prediction for Dense Disparity mapping
- Monocular depth prediction using Generative Adversarial Networks

Research Assistant – Autonomy Robotics and Cognition Lab, University of Maryland

Quadrotor Landing and Takeoff on Mobile Platform -Reverse Control   Jan 2018 – May 2018
- Leading this project which involves landing an autonomous Quadrotor on a mobile platform. Active vision-based technique used for visual recognition and localization of quadrotor with respect to the mobile platform**.** ROS is being used as the development platform (C++)

Visual Servoing and Grasping on Baxter by Rethink Robotics   May 2017 – Dec 2017
- Part of a major project which involves object recognition from a cluttered scene based on the auditory input and grammar-based response. It receives an image of the detected object and robot arm is localized using the visual feedback, ROS is being used as the development platform (C++)

CareNX Innovations Pvt. Ltd. – Indian Institute of Technology, Bombay (Mumbai, India)

R&D – Team Lead and Senior Embedded Engineer   Jun 2016 – Nov 2016
- Led and mentored a team to research and develop Universal Mobile/Micronutrient Reader, a device to conduct various medical tests integrated with smart phone. Led the team to the finals of ImagineIf Innovation Forum, a Cambridge University initiative and received recognition from Department of Science and Technology, Govt. of India
- Developed first prototype of a stethoscope which has both digital and analog functionalities

E14 Technologies Ltd. – Techno-Sciences Inc. (Mumbai, India)

R&D Embedded Engineer   Oct 2015 – May 2016
- Developed Computer Vision Algorithm for blister packing inspection system and tablet inspection system and player tracking for Board of Cricket Control India (BCCI) for Indian Premier League (IPL) tournament

Grey Orange Robotics (Delhi-NCR, India)

Solution & Design Engineer and Implementation, LDAS (Sortation Systems)   Dec 2014 - Aug 2015
- Designed Warehouse Automation Solutions, Process Flow, Integration Development, and conducted Requirements Identifications and Root Cause Analysis during system breakdown phase

GRADUATE COURSES

Perception for Autonomous Robots, Planning for Autonomous Robots, Robotics and Perception, Control of Robotic Systems, Robot Modelling, Robot Learning, Building a Robot Software System, Machine Learning