

SHASHI KANT GUPTA

Third Year Undergraduate
Dept. of Electrical Engineering
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EDUCATION	IIT Kanpur, Major in EE with Minor in Cognitive Science Munam Public School Hazaribagh, Intermediate DAV Public School Hazaribagh, Matriculation		GPA: 8.88/10.0 Percentage: 91.2% GPA: 10.0/10.0	Aug. '16 – Jun. '20 April 2016 April 2014
ACADEMICS ACCOLADES	<ul style="list-style-type: none">Received Academic Excellence Award twice for outstanding academic performance (awarded to top 7% students in the institute) for the year 2016 and 2016-17Received an A* grade in Fundamental of Computing [ESC101] (awarded to top 1-2% students in a course)99.89 percentile in Joint Entrance Examination (IIT-JEE 2016) among 1.5 million studentsSecured AIR 842 in KVPY 2015, a prestigious exam conducted by IISc Bangalore and funded by DST, Govt. of India			
INTERESTS	Computer Vision • Image Processing • Robotics • Artificial Intelligence • Computational Cognitive Science • Machine Learning			
RESEARCH & DEVELOPMENT PROJECTS	Distance Measurement Module for Localisation of UAVs in Deep Tunnel <i>Summer Internship, Dr Hock Beng Lim, Centre for Smart System, SUTD Singapore</i> <ul style="list-style-type: none">Implemented the Optical Flow algorithm based on SAD block matching to determine UAV position in deep tunnels i.e. GPS denied environmentImproved upon the optical flow performance using predictive analysis to predict future data's to overcome the issue of inconsistent feature detection by the optical flowPerformed various experiments to collect data samples to measure and analyse performanceWorking on implementing EKF to use acceleration data to improve accuracy during less illumination. Humanoid IITK <i>Dean of Research and Development Project, Dr Ashish Dutta, IIT Kanpur</i> <ul style="list-style-type: none">Designed and developed Institute's first Humanoid (AUTOMI), which can perform statically stable biped walking, voice localisation, various computer vision tasks like face recognition, object tracking, line followingWorked on Line Following and Object Tracking using various computer vision algorithms in OpenCVWorked on Stick-model simulation of 14 DOF biped on Matlab to calculate various walking parametersIntegrated all the packages and modules using the ROS platformDesigned a GUI to control and debug the robot using PyGTK and Glade for Linux platform		Jun. '18 – Jul. '18	
OTHER RELEVANT PROJECTS	PixhawkArduinoMAVLink <i>Self Project</i> <ul style="list-style-type: none">Developed an Open Source Arduino library to communicate between Pixhawk and ArduinoUsing MAVLink messaging protocol to create the communication SL-COM (Sign Language Communication) <i>Robotics Club, IIT Kanpur</i> <ul style="list-style-type: none">Developed customized sign language & utilized it to generate hand gestures for alphabets to help dumb & deaf peopleUsed Bluetooth Module to send mapped texts to a Chat-App (based on nodeJS) using ROS as the platform for integrationDemonstrated the prototype in Techkriti Innovation Challenge and was awarded the 3rd prize		Jun. '18 - Ongoing Mar. '17	
RELEVANT COURSES	<ul style="list-style-type: none">Data Structures & AlgorithmsIntroduction to ElectronicsProbability and StatisticIntroduction to Machine Learning [o]		<ul style="list-style-type: none">Signals, Systems And NetworksFundamental of Computing [*]Linear Algebra & Ordinary Differential EquationStatistical Signal Processing [o]	* - Exceptional Performance o - Ongoing
TECHNICAL SKILLS	Languages: Software and Tools: Online Audited Courses:	C • Python • JavaScript OpenCV • NumPy • ROS (Robot OS) • Matlab • Arduino • HTML/CSS • Autodesk Inventor • Jekyll • Git Computer Vision: Foundations & Applications [LINK], Deep Learning Specialization (Ongoing)[LINK], CNNs for Visual Recognition (Ongoing)[LINK]		
POSITIONS OF RESPONSIBILITY	Technical Head <i>Humanoid IITK Team, IIT Kanpur</i> <ul style="list-style-type: none">Leading a team of 10 members to develop our fully functional HumanoidOverseeing various technical aspects and future goals of the project UG Coordinator <i>Electrical Engineering Association, IIT Kanpur</i> <ul style="list-style-type: none">Provided support and guidance to undergraduates to create a link between faculty and studentsHelped in organising department level fresher and farewell parties for incoming and outgoing batches Secretary <i>Robotics Club, IIT Kanpur</i> <ul style="list-style-type: none">Organized and took campus level lecture on ROS during summer project '17Designed the Robotics Club website using Jekyll and Material Design FrameworkMentored a group of 5 junior undergrads for their winter project Secretary (FineArt Club) [Apr. '17 – Mar. '18] • Student Guide (Counselling Service) [Aug. '17 – Jul. '18]		May. '18 - Present Aug. '17 - Present Apr. '17 – Mar. '18	