TOPIC	Kobuki Navigation using TensorFlow Framework-based Inception v3 Image Recognition Engine and the Robot Operating System
ORGANIZERS	Student Leadership Council and Faculty of ACIT Institute and TECHLAV Center
AREA	Autonomous Navigation/ROS
SPEAKER	Abhijith Ravikumar Puthussery, MS student, University of Texas at San Antonio
DATE	Friday December 2, 2016
TIME	3:00 – 4:00 PM (EST)
VENUE	Fort IRC 410, North Carolina A&T State University, UTSA and SIPI will be joining through video-conferencing
FEES	No Charge

SYNOPSIS

It doesn't take much effort for humans to distinguish between a cat and a lion, to recognize a person's face, or to read a sign. But these are hard problems to solve for a robot or a computer. It seems easy for humans because the brain is incredibly good at understanding and recognizing images. The main objective is autonomously navigating differential drive Kobuki robot using Robot Operating System (ROS), with machine learning tools such as: The TensorFlow framework and the Inception v3 image recognition engine. In this talk, the inner workings of the system along with results and drawbacks will be discussed. An experimental setup, consisting of a Kobuki Turtlebot 2 robot with an Asus Xtion camera, will be described. Information will be provided on how Google's TensorFlow Inception v3 Image Recognition Engine has been enhanced with the functionality to accept images from robots using ROS to recognize different objects from an image and find their position.

ABOUT THE SPEAKER

Abhijith is currently working towards his Master's degree in Electrical Engineering with a focus in Controls at the University of Texas at San Antonio. He completed his B.S. of Tech. in EE at the University of Kerala, India in June of 2013. He joined Autonomous Control Engineering (ACE) Lab along with TECHLAV Center after his second semester at UTSA. His areas of research interests are autonomous navigation, machine learning, and cloud computing. E-mail: qaw164@my.utsa.edu