Bharath Satheesh

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EDUCATION

University of California, Berkeley
Electrical Engineering and Computer Sciences, Applied Mathematics
Class of 2017; GPA: 3.3

Carnegie Mellon University
Robotics and Embedded Systems (Team India for Robogames 2013)
Class of 2013; Oracle Java Certification.

RELEVANT COURSEWORK

Data Structures and Algorithms
Introduction to Machine Learning
Probability theory and Random processes.
Introduction to Artificial Intelligence
Optimization Models and Applications
Advanced Linear Algebra

EXPERIENCES

Hybrid Systems lab: *University of California, Berkeley (March 2015 – Present)*

- Implemented *target and trajectory tracking* for quadrotors with accurate state estimations using *convolutional neural networks (CNN)*
- Redesigned old non functioning C, Python code base in ROS (Robot Operating System) to create Matlab functionality to test ongoing reachability experiments at the lab
- Created Catkin functionality for ROS code, to collaborate with ETH Zurich on the Starmac Project
- Presented poster at the NASA UTM (UAS Traffic Management) conference in 2015 on hybrid systems theory developed at the lab

Model Predictive Controls lab: *University of California, Berkeley (August 2014- November 2014)*

- Conducted error estimation experiments on autonomous cars to keep track of lane changes with the help of Model Predictive Control
- Designed Kalman filter to accurately correct approximations to match simulations on CarSim
- Deployed filtered model to the car and verified that actual highway measurements recorded by a real time camera system, mimic the theoretical estimates of the predicted model

PERSONAL-PROJECTS

- Implemented *gesture recognition* with the Spotify API to like or 'upvote' music with OpenCV, Scikit-learn for Python and Matlab
- Created a *smart calendar* that keeps track of important events with simple single layered neural networks with C optimizations to enhance speed in data recollection
- Built a *smart fan* that directs wind flow based on user location with low frequency filtering
- Employing the *K - nearest neighbor approach* to solve simple problems like preferred elementary school for a certain neighborhood with *clustering*

SKILLS

- Proficient at Python, Matlab, Java, ROS and comfortable with the Linux environment.
- Fairly proficient at OpenCV, Octave, C, SQL, MIPS, Arduino, Robot C, JavaScript, CSS, HTML
- Working on Ruby, Node JS, C++, C# and Swift
- Recipient of the Oracle Java Certification by Sun Microsystems/Oracle in 2013.
- Passionate about *Ceramic Artwork*. Presented my work on the topic 'human conditions' at the Wurster Art gallery, Berkeley, CA.