Akshaysingh Pardeshi

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Summary:

CS Masters student with two years industry experience and strong academic background in Machine Learning and Computer Vision.

Education:

09/2015 – 4/2017 **University of California, San Diego**
Masters, Computer Science, **GPA: 3.6/4.0**

06/2009– 05/2013 **Vishwakarma Institute of Technology (VIT)**, Pune, India
Bachelors, Computer Science, **GPA: 8.73/10**

Related Courses: **Machine Learning, Computer Vision, Robotics, Algorithms, Embedded Systems**

Technical Skills:

C(Primary), C++(Primary), Java, Python, HTML, PHP

OpenCV, Scikit-learn, MATLAB, GIT, Sys-BIOS **(**TI-RTOS), Development Boards(BeagleBoard, Mbed)

Relevant Experience: : (https://github.com/akshaypardeshi26/akshaypardeshi26)

Research/Professional Experience:

Graduate Researcher, Vision Benchmark Suite, UCSD 09/15 – Present

- Developed Multivariate *Random Forest Classifier* for Car Evaluation and Activity Recognition (UCI ML repo).
- Classified data across *decision tree using Gini Index and Entropy.*
- Pruned decision tree to avoid overfitting and *achieved 95% accuracy*

Texas Instruments(TI), *Software Design Engineer*, Bangalore 07/13 – 07/15

- Developed and validated *real-time industrial protocols such as EtherCAT, FSI,* etc.
- Programmed protocol firmware on *Sitara platform (AM335x/AM437x SoC)* involving *ICSS (Industrial Communication SubSystem) and PRU processor (Programming Real-time Unit).*
- Developed *device drivers, scheduler and ISRs* for FSI protocol.

Cognizant Technology Solutions, *Intern*, Pune 11/12 – 03/13

- Designed a school bus tracking system for parents, providing them details of their child's whereabouts.
- Developed user-friendly web interface design in frontend & communicated using SQL server in backend.

UCSD Academic Projects:

PartyCop(Alcohol Detector iRobot), Machine Learning & Robotics 09/15 – 03/16

- Built a *semi-autonomous iRobot* to determine alcohol level in blood using a breath sample.
- Programmed a remote application to communicate with iRobot using *eye tracker.*
- Controlled iRobot by programming *SHH server on beaglebone* .
- Matched alcohol readings with a specific person using *face recognition with 80% precision.*

3D Depth estimation using Sparse Stereo Matching, Computer Vision 09/15 – Present

- Estimated depth of features by *triangulating a 3D point using stereo disparity* across two camera images.
- Detected features using *SIFT, Harris-Corner detector* and established correspondence by minimizing *SSD* for feature in left image along the *epipolar line* in right image.

VIT Academic Projects:

EYENAB(Navigation Aid for Blind), Machine Learning & Computer Vision 01/12 – 05/13

- Designed and implemented an application for the visually impaired people.
- Mounted camera on the spectacles of a person, processed camera input on beaglebone and generated audio output via earphones for modules like *currency recognition, object/face recognition, color id.*
- Implemented techniques like *PCA, Eigen/KNN classification, template matching, color segmentation etc*.

Optical Flow Estimation, Computer Vision 07/12 – 12/12

- Developed an Optical flow estimator using *iterative Coarse to fine approach.*
- Accomplished finer displacement by applying *Lucas-Kanade Algorithm on Gaussian Pyramids.*

Achievements:

- Filed **patent** on "Dual Edge Communication Support in Constrained Environment " at Texas instruments in 2015
- Presented research work on *"Software based Fast Serial Interface (FSI) Protocol on ICSS platform"* by TK Pratheesh Gangadhar, Pardeshi Akshaysingh, at Texas Instruments India Technical Conference, 2014.
- Rewarded Central Sector Scholarship for excellent academics record.