Akshaysingh Pardeshi

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Summary:

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

Education:

09/2015 – 6/2017 **University of California, San Diego**
Masters, Computer Science, **GPA: 3.73/4.0**

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

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

Technical Skills:

C(Primary), C++(Primary), Java, Python, HTML, PHP, HALCON, Halide, tensorflow

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

Relevant Experience:

Research/Professional Experience:

- **PerceptiMed Inc, Intern,** Mountain View 06/16 – 09/16
  - Designed SVM classifier for automated medication verification device using 360° microscopic vision.
  - Divided Pills into different bins using color, size and shape parameters.
  - Extracted features from individual image using *fuzzySet, RADON and HOG* transformations.
- **Benchmark Suite, Graduate Researcher,** UCSD 12/15 – present
  - Programming *Special Pyramid Matching (SPM) using SIFT descriptor* to classify MNIST dataset.
  - Developed Multivariate *Random Forest Classifier* for Car Evaluation & Activity Recognition (UCI ML repo).
  - Developing optimized *video Encoder using Halide.*
- **Texas Instruments(TI), *Software 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.

Academic Projects:

- **Video Activity Recognition, Deep Neural Network** 03/16 – 06/16
  - Developed *Convolution Neural Network (CNN) and Long-term Recurrent Convolution Network (LRCN)* for activity recognition on *UCF 101 dataset.*
  - Experimented with network parameters, layer parameters, kernel size to get optimal results.
  - *Obtained 7% accuracy improvement* with LRCN over CNN model.
- **3D Depth estimation using Sparse Stereo Matching, Computer Vision** 09/15 – 03/16
  - 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.
- **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.*
- **EYENAB(Navigation Aid for Blind), Machine Learning** 01/12 – 05/13
  - Designed and implemented an assistance application for the visually impaired people.
  - Mounted camera on the spectacles to obtain *currency recognition, object/face recognition, color id.*
  - Implemented techniques like *PCA, Eigen/KNN classification, template matching, color segmentation etc*.

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.