Shafeeq E

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ACADEMIC DETAILS

Examination	University	Institute	Year	CPI/%
M. Tech	IIT Bombay	IIT Bombay	2012	8.2/10
B.E. (AE & I)	Kerala University	CET Trivandrum	2010	6.98/10
12th	HSE	PKMMHSS, Edarikode	2006	83.3
10th	SSLC	JMHSS, Tirur	2004	93.3

TECHNICAL SKILLS

Programming Languages	:	C, C++, Python, Shell Scripting, Assembly Language
Softwares/Tools	:	MATLAB, OpenCV, Opensaf, GDB, valgrind, FFmpeg, Github, Heroku, Ngspice, Magic, Xilinx-ISE, ModelSim, Keil, LaTeX
Operating Systems	:	Windows, LINUX

WORK EXPERIENCE : 2 years

- **Designation :** Working as Senior Technical Staff in Vvidia Communications from july 26.
- **Projects Undertaken**
  - **Subscription Manager**
    * Developed framework in C++ to manage various subscribtions based on operators and plans.
    * Maintained various subscription plans using Clipsmm libraries.
    * Enhanced Stability of Subscription Manager and Session Manager using AMF(Avalibility Management Framework) libraries.
    * Posix Queues and OpenSaf framework was used for transmission of messages within processes.
    * System is multithreaded, Boost threadpool was used for development.
  - **Media Server**
    * Involved in development of a framework which will be used to serve mediaserver (RTSP / HTTP) in realtime.
    * The feed given to mediaserver will be based on network and device capabilities.
    * Future work involves incorparting DASH, HLS and various other Adaptive streaming protocols.
  - **Media Converter Implementation on Mediacore**
    * A web based media converter can convert from one format to several other formats single shot.
    * Flexibility was provided in terms of giving input, directory or file.
    * Output specifications include format, bitrate, resolution.
    * Pylons and ffmpeg was used for development.
  - **Pylons and Mediacore**
    * Working knowledge of python (pylons) based MVC framework for web development.
    * Worked on mediacore opensource platform based on pylons, used to share and manage media content.
    * Added various functionalities like preview of video and provisions for better category and country management among various videos.
    * Added fuctionality from admin to upload videos to popular media sharing sites like youtube, dailymotion.
    * API developed for sharing media files and data to partners through ftp as well as web portals.
    * Involved in the development for embeding popular videos from media sharing networks to our web portal.

M.TECH MAJOR PROJECT

- **3D Reconstruction from Stereo Vision**   (June 2011 to June 2012)
  (*Guide: Prof. Vivek Aggarwal*)
  - Objective of this project was to understand stereo 3D reconstruction, developed by using OpenCV libraries and develop a hardaware system.

- Depth map extracted of a scene from stereo images using SAD algorithm. Camera calibrated from planar geometry using Zhengyou Zhangs's camera caliberation method
- Intrinsic camera parameters refined by using LevenbergMarquardt algorithm by minimizing reprojection cost function.
- Depth map from stereo images is computed using dynamic programming and image pyramiding. Then 3D reconstruction carried out by back projection method.
- Developed a hardware system, which comprises of c3038 image sensor, Spartan 3 dsp proto board, Atmega 32 micro controller.

M.TECH COURSE PROJECTS

- **Down-Sampler for Digital Radio and SDR Applications** (*DSP and applications*)　　　(October 2010)
- **MIPS Single Cycle and Multi Cycle CPU Implementation in Verilog** (*System Design*) (Mar 2012)
- **Wavelet Scalable Video Codec (WSVC)** (*Wavelets and applications*)　　　　　　(March 2011)
- **Minimization of common mode and dc error of a differential Amplifier** (*Electronic Sysytem Design*)　　　　　　　　　　　　　　　　　　　　　　　　　　　　　(November 2010)
- **Detection of change in inductance by microcontroller** (*Embedded System Design*)　　　(March 2011)

SOME IMAGE PROCESSING PROJECTS

- **Harris Corner Detection and Matching**　　　　　　　　　web link: http://goo.gl/NYynNo
- **SURF feature detection and matching**　　　　　　　　　web link: http://goo.gl/7P9Bgh
- **SURF Reliable matching using RANSAC algorithm**　　　web link: http://goo.gl/5vHDzW
- **Image Mosaicing**　　　　　　　　　　　　　　　　　　web link: http://goo.gl/pbbMiY
- **PCA and LDA classifier for image classification**
- **Image Scissors**

TECHNICAL SEMINAR

- A Survey of real time pattern recognition (*M.Tech Seminar, IIT Bombay*)　　　　　　(2010)
(*Guide: Prof.Vivek Aggarwal*)

MAJOR COURSES

○ Digital Signal Processing	○ Electronic System Design	○ VLSI Digital design
○ Digital Image Processing	○ Embedded System Design	○CMOS Analog Design
○ Sensors in Instrumentation	○ Communication Networks	○ System Design
○ Wavelets	○ Solid state microwave devices and applications	

ACHIEVEMENTS

- Secured All India Rank 49 in GATE-2010
- Won first prize for Robosoccer in Sanskriti 10 conducted by MACE and Crossroads 10 conducted by Marbaselios college of engineering.
- Participated in Hostel GC Football and for PG Sports football for Electrical department and secured fourth and first place respectively.

POSITIONS OF RESPONSIBILITY

- Teaching Assistant, Experimentation and Measurements Laboratory (IC 211), Microprocessor lab(EE 309), Digital Electronics lab (EE211), .

- PG Sports representative of Electrical department in IITB. Responsible for departmental team selection and organisation of various sports competitions in PG Sports 2011

OTHER INTERESTS

- Playing Football, Swimming, Table tennis.