IMAMA ALI

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EXPERIENCE:

Member of Technical Staff Nov 2016 – Present

Urus Graphics(stealth-mode startup - Havard), Burbank CA

Working on 3D facial model reconstruction and rendering.

- Reconstructing 3D facial models from a single image. C++, Eigen, Opencv, multi-linear facial models
- Building library of facial scans from multi RGBD camera stereo setup. Registration based on Morphable model, multi-linear facial models
- Rendering and estimation of displacement-mapped surfaces from multiple images. differential geometry, linear algebra, c++, Eigen, rendering, GANs
- Build and maintain continuous integration for main repository on circleci. bash, linux

Research Engineer Nov 2013 – Feb 2016

Video Analytics Department, Avigilon USA, Boston MA

Working to improve existing and build new applications for surveillance camera for object detection, recognition and tracking

- Building SVM, CNNs and R-CNNs based learning algorithms for detection, classification and reasoning. Caffe, Torch, Python
- Designing and implementing new algorithms to improve on existing algorithms for human detection, identification and tracking in surveillance videos. C++, openCV, Adaboost, HOG, cascade classifier, Mercurial
- Developing custom feature, optimized for fast calculation with similar results compared to state of the art feature extraction algorithms. Neon ARM optimization, QT, B-HOG

Research Assistant Jan 2009 – Jan 2013 Department of Electrical and Computer Engineering University of Memphis, Memphis TN

Worked at Center for advance sensors with focus on compressive sensing for real time video imaging and taught /assisted Digital Image Processing and Random Signal Analysis.

- Adaptive Sampling scheme for real time Video Acquisition and reconstruction Using a Single Pixel Camera – Compressed Sensing, Motion Detection, C++, STL, openCV, Multithreading, Linux, 64x64 DMD kit, focal lens, half- wave plate and single pixel detector
- Compressive Sensing for a Sub-millimeter Wave Single Pixel Imager – Compressed Sensing, C++, STL, Eclipse, Matlab, Single pixel detector, mirrors, spatial modulator.
- 3D Joystick Operation in a Virtual Reality Environment – C++, STL, Eclipse, opencv, Camera Calibration and SIFT, depth estimation, image registration
- 2D and 3D model for structured illumination microscopy – PSF estimation, deconvolution and Matlab/Linux

EDUCATION:

2013 Ph.D, Image Processing, Department of Electrical and Computer Engineering, University of Memphis; Memphis TN. GPA 3.74

2007 M.Sc. Computer Engineering, Specialization in Signal Processing (evening classes) University of Engineering and Technology; Taxila GPA 3.23

2004 M.Sc. Electronics
Quaid-i-Azam University; Islamabad GPA 4.00

TECHNICAL SKILLS:

Platforms: Linux, Windows and OSX
Languages: C/C++/C++ 11, Java, Motorola *68HC11* assembly, Intel Assembly *8051MC*

Soft Tools: STL, Eigen, OpenCV, Boost, QT, Python2.7, MatlabR20xx, CUDA, Octave 3.4.2, Eclipse, MSVC 201x, LaTeX, Weka, Office 20xx, Tornado, COSMOS, Verilog HDL, Texas (Programmer *68HC11*), XILINX , Protel, All 11 Programmers, Mapinfo, Pathloss 4.0, Ellipse, Pspice

ACHEIVEMENTS AND INVOLVEMENT:

- Speaker at SPIE DSS 2011 Orlando, FL and 2012 Baltimore, MD
- Reviewer, SPIE Optical Engineering & Electronic Imaging, IEEE Signal Processing.
- 1st Class 1st , Master of Electronics 2004, Quaid-i-Azam University,
- Merit Scholarship-Spring 2005- Fall 2005, Center of Advanced Studies for Engineering
- Merit Scholarship - Fall 2002 and Spring 2003, Quaid-i-Azam University

PUBLICATIONS:

- Imama Noor and Eddie Jacobs, " Adaptive Sampling scheme for real time Video Acquisition and reconstruction Using a Single Pixel Camera" SPIE Journal Electronic Imaging
- Imama Noor and Eddie Jacobs, " Adaptive Compressive Sampling Scheme for real time Video Capture and reconstruction Using a Single Pixel Camera" SPIE Compressive Sensing Proceedings Vol. 8023
- Imama Noor, Orges Furxhi and Eddie Jacobs, "Compressive Sensing for a Sub-millimeter Wave single Pixel Imager" SPIE Passive Millimeter-Wave Imaging Technology XIV Proceedings

REFERENCES: Provided on Request