Bhuvaneswari Sarupuri

Objective

To pursue work in visionary projects aiming in changing the technology perspective especially in the areas of virtual reality, human computer interaction and interface designing.

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Education

PhD in Human Interface Technology
HIT LAB NZ, University of Canterbury, NZ
July 2016 - Present

Master of Science in Human Interface Technology
HIT LAB NZ, University of Canterbury, NZ
March 2015 - March 2016

Master of Technology in Machine Intelligence
DAIICT, India
July 2012 - August 2014

Bachelor of Technology in Electronics and Communication Engineering
Acharya Nagarjuna University, India
September 2008 - April 2012

Experience

Maths and English Tutor   April 2016- Present
YourTutor, Australia

Responsibilities include
- Assisting students with concepts and problems in Mathematics and English
- Providing feedback on assignments and essays.

Image Processing Expert   July 2014- March 2015
Augmentron, Chennai, India

Responsibilities include
- Working on CV algorithms for marker detection, pose estimation and tracking
- Building cloud recognition algorithms
- Developing AR applications for mobile and web
- Data Visualisation using devices like Kinect and Leap Motion

Teaching Assistant   July 2012- March 2014
DAIICT, Gujarat, India

Responsibilities include
- Assisted in teaching the courses including Introduction to programming languages, Advanced Digital Communication, Introduction to Communication skills, Introduction to Communication Theory
- Worked on Designing, Organizing and Evaluating labs, Tutorials and Assignments.

Programming Languages
C, C++, C#, Python, HDL, VHDL

Tools and Technologies
Unity, Matlab, OpenCV, Labview, Xilink, Processing, Arduino, Pspice

Technical Electives
Computer Vision, Pattern Recognition, Image Processing, HDL programming

Areas of Interest
Augmented and Virtual Reality, Computer Vision, Human Interface Design, Cognitive Psychology

Major Projects

Enhancing Depth Cues with AR visualization for forklift operation assistance in warehouse

July 2015- Feb 2016

In order to maximise the productivity of the warhouses, the shelves are designed deep, tall and the aisles are becoming narrower. For reach and double deep reach truck operators, visibility is one of the main reasons for strain and judgement error. To help the operators to view and judge the depth better while handling pallets at heights, we developed an Augmented Reality based interface for forklifts which augments depth cues to visualize the distance and depth better.

Supervisors - Christoph Bartneck, Mark Billinghurst, Gun Lee

Marker and Marker less tracking for AR applications

July 2014- March 2015

Worked on Computer Vision algorithms for recognition , tracking and pose estimation to develop an SDK for marker and markerless Augmented Reality Applications for mobile and web. Designed a unique circular marker for commercial applications and developed algorithms for it's recognition and tracking.

Estimating depth from monocular video using varying illumination

August 2013 - April 2014

Investigated effect of texture cues in motion estimation which are used to estimate depth in monocular videos under varying illumination conditions. Markov Random Fields and constrained supervised learning was used to learn the depth of each patch in the image. In order to estimate depth from single videos, we tried to incorporate temporal coherence using motion cues.

Supervisor - Aditya Tatu

Publications

Sarupuri, B., Lee, G. A., & Billinghurst, M. (2016). Using augmented reality to assist forklift operation. Proceedings of the 28th Australian Conference on Computer-Human Interaction - OzCHI '16.

Sarupuri, B., Lee, G. A., & Billinghurst, M. (2016). An Augmented Reality Guide for Assisting Forklift Operation (Poster). Proceedings of ISMAR '16.

Scholarships and Awards

- PhD fee scholarship from University of Canterbury
- International Masters Scholarship from university of Canterbury.
- Industrial sponsership for Masters thesis.
- Full Masters scholarship for Masters in ICT from Dhirubhai Ambani Institute of Information and Communication Technology.
- All Indian talent scholarship award.
- Cash prize and certificate of brilliance by International. children fund.

Hobbies and Interests

Activities - Gardening, Cooking
Sports - Wushu, Chess, Badminton
Art- Pencil sketching, Water painting
Literature - Science fiction, Classics and philosophy

Positions of Responsibility

Treasurer
UCISA, University of Canterbury

Project Leader
Project - VLSI Implementation of Universal Filter
Acharya Nagarjuna University

School Sports Leader
Coordinator for sports in the school
Sri Vidyanikethan International School

Languages and Proficiency

English- Proficient

Hindi- Proficient

Telugu - Mother tongue

Tamil - Beginner