SURYANARAYANA MURTHY MUDDALA

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RESEARCH AND TECH INTERESTS

Computer Vision, Machine Learning, 3D Video, Multi view processing, Pattern Recognition, and Signal Processing

WORK EXPERIENCE

Facebook: (PRO Unlimited Global Indian Private Limited, Bangalore, India)
Position: Tech. Coordinator in Computer Vision and Machine Learning (August 2016-December 2017)

- Leading engineering and analyst team.
- Investigating various data imagery and extract core features using different ML models.
- Developing a geocoding solution for un-mapped areas using Computer Vision and Machine Learning tools.

Mid Sweden University, Sundsvall, Sweden
Position: Graduate Researcher (March 2011- August 2015)

- Investigating and developing new rendering algorithms for 3DTV and free view point TV.
- Investigating and developing new texture synthesis (inpainting) methods for disocclusion handling.
- Investigating possible methods to evaluate rendered image quality.
- Literature research on multiple views calibration and synchronization.

Blekinge Institute of Technology, Karlskrona, Sweden
Position: Research Student (August 2010-Jan 2011)

- Investigating the possibilities for 3D video and image in handheld devices
- Multiple camera calibration and depth extraction.

Blekinge Institute of Technology, Karlskrona, Sweden
Position: Research Student (September 2009 - March 2010)

- Investigating different types of active noise control systems to reduce noise in radial fan.
- Design and developing new active noise control methods.

Blekinge Institute of Technology, Karlskrona, Sweden
Position: Teaching Assistant (May 2009 - June 2009)

- Demos on signal analyzers and IDEAS software.
- Assessing lab reports.

EDUCATION

PhD **Mid Sweden University**, Computer and System Sciences,
(March 2011-June 2015)
Dissertation: "Free View rendering for 3D Video – Edge-Aided Rendering and Depth-Based Image Inpainting"
Advisors: Prof. Mårten Sjöström & Dr. Roger Olsson.
Committee: Prof. Ulf Assarsson, Asso Prof. Jan Thim, Dr. Federica Battisti and Prof. Christine Guillemot.

MS **Blekinge Institute of Technology**, Electrical Engineering,
(March 2007-June 2009)
Thesis: "Active Control of Radial fan"
Advisors: Dr. Sven Johansson & Dr. Martin Larsson

BTech **Jawaharlal Nehru Technological University**
Electronics and Communication Engineering,
(August 2002 – May 2006)

COMPUTER SKILLS

Programming: C, C++, MATLAB, Python, Knowledge in Lua Torch
Libraries: Open Source Computer Vision (Open CV), Chainer, Caffe2
Text Processing: Latex, Microsoft Office

PROFESSIONAL TRAINING

Attended Summer School

- Remote Engineering summer school on computer vision in Blekinge Institute of Technology, Sweden, 2010.
- European Cooperation in Science and Technology (COST) Action: 3D media and computational architecture in Tampere University of Technology, Finland, 2012.
- Plenoptic capture, processing and reconstruction in Mid Sweden University, Sundsvall, Sweden, 2013.
- 3D content creation, perception and interaction in Budapest, Hungary, 2014.

AWARDS

Best Paper Award, 2017
Robocodes: Towards Generative Street Addresses from Satellite Imagery.

Best Student Paper Award, 2013
Developing a new method for handling disocclusions using Inpainting.

Best Student Project Award, 2009
Enhancing of images, which are affected by various noises.

PUBLICATIONS

Journal Publications

S. M. Muddala, R. Olsson and M. Sjöström, "Spatio-Temporal Consistent Depth-Image Based Rendering Using Layered Depth Image and Inpainting," *EURASIP Journal of Image and Video Processing*, Feb. 2016.

S. M. Muddala, M. Sjöström and R. Olsson, "Virtual View Synthesis Using Layered Depth Image Generation and Depth-Based Inpainting for Filling Disocclusions and Translucent Disocclusions," *Journal of Visual Communication and Image Representation*, Mar. 2016.

S. M. Muddala, R. Olsson and M. Sjöström, "Depth-Included Curvature Inpainting for Disocclusion Filling in View Synthesis," *International Journal On Advances in Telecommunications*, Dec. 2013.

Conference Papers

I. Demir, F.Hughes, A. Raj, K. Tsourides, D. Ravichandran, S.M.Muddala, K. Dhruv, S.Garg, J. Malhotra, B. Doo, G. Kermani and R. Raskar, "Robocodes: Towards Generative Street Addresses from Satellite Imagery," *CVPR:Earth Vision*, 2017 (Best Paper)

S. M. Muddala, M. Sjöström, and R. Olsson, "Depth-based inpainting for disocclusion filling," *3DTV-Conference: The True Vision – Capture, Transmission and Display of 3D Video (3DTV-CON)*, Jul. 2014.

S. M. Muddala, R. Olsson, and M. Sjöström, "Disocclusion Handling using Depth-Based Inpainting," *The Fifth International Conferences on Advances in Multimedia (MMEDIA)*, Apr. 2013. (Best Paper)

S. M. Muddala, M. Sjöström, R. Olsson, and S. Tourancheau, "Edge-aided virtual view rendering for multiview video plus depth," *3D Image Processing (3DIP) and Applications*, Feb. 2013.

S. M. Muddala, M. Sjöström, and R. Olsson, "Edge-preserving depth-image-based rendering method," *International Conference on 3D imaging (IC3D)*, Dec. 2012.

M. Larsson, S. Johansson, S. M. Muddala, A. E. Mohamed Gafar, L. Håkansson, "An initial study on applying active noise control to an insulated box fan used in ventilation system applications," *Sixteenth International Congress Sound and Vibration, ICSV16,* 2009.

ADDITIONAL THESIS

S. M. Muddala, "View rendering for 3DTV," *Licentiate thesis, Mid Sweden University*, Jun. 2013.

S. M. Muddala and H. Mohamed, "Active Noise Control of an Insulated Box Fan using Feed forward and Feedback Control," Project *work, Blekinge Institute of Technology*, Feb. 2010.

LANGUAGES

Telugu: Native Language
English: Fluent
Swedish: Intermediate
Hindi: Basic

OTHER

Reviewer to the Journal of Visual Communication and Image Representation