RESUME

PERSONAL DATA

Name: Lalith, Sharan

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Date, Place-of-Birth: 27.02.1993, Chennai (India)

I'm a medical systems engineer focused on deep learning and computer vision – in particular stereo-vision, image segmentation and registration.

CURRENT POSITION

Apr 2019 to present	**Master's Thesis Student** Research Project *Computer-based Quantification of Reconstructive Mitral Valve Surgery* at Mannheim University of Applied Sciences and Heidelberg University Hospital, Germany Depth estimation in stereo-endoscopy using deep learning for application in mitral valve reconstruction. (Keras, Tensorflow, OpenCV)

EDUCATION

Apr 2017 to present	**Master's Degree, M.Sc. in Medical Systems Engineering** Otto von Guericke University, Magdeburg (Germany) Specialisation: Deep Learning, Computer Vision, Computer-assisted Surgeries & Interventions Current grade: 1.6/4 (Max.: 1.0, Min. passing: 4.0)
Jul 2010 to May 2014	**Bachelor's Degree, B.E. in Biomedical Engineering** Manipal Institute of Technology, Karnataka (India) Specialisation: Pattern Recognition, Medical Image and Signal Processing Grade: 8.69/10 (Max.: 10.0, Min. passing: 5.0)
Jun 2008 to May 2010	**All India Senior Secondary School Certificate** Central Board of Secondary Education, Chennai (India) Specialisation: Computer Science, Mathematics, Physics, Chemistry Grade: 89.6% (Max.: 100%, Min. passing: 33%)

PUBLICATION

Sandy Engelhardt, **Lalith Sharan**, Matthias Karck, Raffaele De Simone, Ivo Wolf (2019). Cross-Domain Conditional Generative Adversarial Networks for Stereoscopic Hyperrealism in Surgical Training. Accepted Medical Image Computing and Computer-Assisted Intervention MICCAI 2019.

PROJECTS

Apr 2018 to Jul 2018   **Mitral valve segmentation from Echocardiography**
Segmentation of mitral valve in 2D & 3D using U-Net architecture;
Pre-processing with MevisLab, ParaView and MITK.

Oct 2017 to Jun 2018   **Depth-mapping for stereo-endoscopy**
Stereo-reconstruction using computer vision techniques from surgical
data, implemented using OpenCV libraries on C++.

PROFESSIONAL EXPERIENCE

Oct 2018 to Mar 2019   **Internship**
Research Project "Computer-based Quantification of Reconstructive
Mitral Valve Surgery" at Mannheim University of Applied Sciences and
Heidelberg University Hospital, Germany

Depth estimation in stereo-endoscopy using deep learning for
application in mitral valve reconstruction. (Keras, Tensorflow, OpenCV)

Jan 2018 to Sep 2018   **Student Research Assistant**
Otto Von Guericke Universität, Magdeburg (Germany)
Support of research in the *Computer Assisted Surgeries* research group;
multi-modal registration of MRI & US data, medical visualisation using
MeVisLab + python, 3D slicer.

Nov 2014 to Mar 2017   **Manager-Strategy**
eHelium Advisory Service Private Limited, Chennai (India)
Market analysis, identifying gaps & opportunities in building a scalable
online education platform for entry-level talent pool in Indian service
sector.

Jan 2014 to May 2014   **Trainee**
Institute of Nuclear Medicine & Allied Sciences, Delhi (India)
Bachelor thesis on *Cognitive State Assessment using EEG Signals.*
Developed a classifier to assess cognitive-state using 14-channel EEG
signals in a war-like multi-tasking scenario.

SKILLS

<u>Software:</u>   Python (Keras+Tf), C++, OpenCV, MeVis Lab, 3D Slicer, MS Office

<u>Languages:</u>   **English**: Proficient in Speaking, Writing (C2)
                   Deutsch: Good in Speaking, Writing (B1), **Tamil**: Native proficiency

Heidelberg, 18.07.2019