Srinath Hanumantha Rao

459 Segar Road – Singapore – 670459

+65 91039817 • srinath2468@gmail.com • www.linkedin.com/in/shr

Education

- **Nanyang Technological University, Singapore** **August 2018 - June 2019**
  MSc.Computer Control and Automation
- **Birla Institute of Technology and Science, Dubai** **August 2014 - June 2018**
  B.E.(Hons.) Electronics and Instrumentation Engineering

Technical Skills

Programming Languages and Libraries

- Proficient in: C, C++, Python,CUDA,LaTeX, Experience with ROS(Robot Operating System), OpenCV(Library for Computer Vision), Keras(Wrapper for Tensorflow)

Industry Software Skills

- SolidWorks (Intermediate), MATLAB(Advanced),PSPICE(Advanced),Android Studio(Advanced),Most MS Office products(Advanced),
  AutoCAD(Intermediate), Adobe Photoshop(Advanced)

Work Experience/Internship

Iko **Singapore**
Embedded Computer Vision Developer *Since May 2019*

- Developing a handheld clinical imaging solution for measuring surface features to use in the detection of melanoma
- Responsible for creating an automatic camera tracking system (Visual Odometry) that incorporates SLAM(Simultaneous Localization And Mapping) for keeping track and stitching scans of patients together.

Robotics Research Centre, Nanyang Technological University **Singapore**
Graduate Research Associate *July 2018 - April 2019*

- Research Associate working in the field of Computer Vision in the healthcare and logistics industry
- Represented Team Nanyang(NTU) as a part of the Robotics Research Centre at the JDx Robotics Challenge 2018 held in Tianjin,China

Birla Institute of Technology and Science,Pilani **Dubai,UAE**
Teaching Assistant *January 2018 - June 2018*

- Involved in improving the course content alongside facilitating practical learning for the Master's course in 'Kinematics and Control of Robots'
- Responsible for conducting lab sessions to demonstrate and to teach how to work with the robotic arm procured by the university

Strom Motors (E14 Technologies) **Mumbai, India**
Research Intern - App Development *June 2017–October 2017*

- Assisted in developing an Android application to interface with all the components of the electric car being produced by the company
- Developed application was also responsible for integrating in-app navigation using Google APIs

Alstom Transport **Chennai, India**
Mechanical and Production Intern *June 2016 - August 2016*

- Worked in the Industrialization sector of the Alstom Sydney Project
- Oversaw PBOMs(Production Build of Materials), verified welding errors, and ensured smooth flow in the factory
- Re-calibrated the Underframe jig(device that holds production parts in place) to ensure that any modification fell within the industry standards

Published Papers and Academic Projects

Journal Papers

Tracing a Weld Line using Artificial Neural Networks [International Journal of Networked and Distributed Computing (IJNDC)]

- Weld lines were identified on workpieces and a neural network was trained on a robotic arm (TAL Brabo!) to trace along the line to ensure smooth and efficient welding
- One of the few papers selected from the 2018 IEEE/ACIS 17th International Conference on Computer and Information Science (ICIS) to be published in the journal

Conference Papers

Unmanned Aerial Vehicle of Team IFOR for the International Aerial Robotics Competition 2017

- Submitted for the IARC(International Aerial Robotics Competition)
- Describes the autonomous aerial vehicle developed by BITS Pilani Dubai for completing the mission

Projects

Comparison of methods for 3D-2D point occurrences during pose estimation *Master's Thesis*

- A comparison between the three methods provided in the OpenCV documentation for the SolvePnP function
- Master's Thesis at Nanyang Technological University

Using Gated Recurrent Units for Image Captioning *Undergraduate Thesis*

- Implemented Deep learning using GRU-RNN to caption images using the Flickr80k dataset along with a personal addition of 200 images and captions.
- Keras wrapper was used for Tensorflow to create the model using Python

Robust Algorithm Development for PCB Auto-Routing

- Implemented a modified A star search algorithm in integration with MATLAB and PSPICE to produce an efficient auto-routing software

"SorbDrone"- oil spill solutions using UAVs(Click to view Solution Video)

- Created a system of Unmanned Aerial Vehicles to clean up oil spills using hydrophobic oil absorbing pads sponsored by "Oilex" for the DFG(Drones for Good Competiti
- Oil spill target was segmented according to payloads of drones and assigned accordingly to ensure efficient cleanup.

Leadership/ Co-Curricular Activities

Team IFOR (https://www.team-ifor.org/) **Dubai,UAE**
Avionics Lead *April 2016 - August 2017*

- Team IFOR is an undergraduate research group that specializes in creating solutions using UAVs(Unmanned Aerial Vehicles). In charge of the Computer vision and avionics department of the club
- Managed a team of students to participate in the IARC (International Aerial Robotics Competition) held in Atlanta, Georgia

IEEE- BITS Pilani Dubai **Dubai,UAE**
General Secretary and Design Lead *May 2016- August 2017*

- Responsible for Overseeing meetings and arranging workshops to foster the knowledge present in the campus and also contribute to it.
- Responsible for hosting various competitions in cultural and technical festivals