

EDUCATION

- **University of Maryland** College Park
PhD in Computer Science *Aug. 2021 – Present*
- **University of Moratuwa** Moratuwa, Sri Lanka
BSc Honors in Electronic and Telecommunication Engineering *Nov. 2014 – Dec. 2018*
GPA: 4.04/4.2 (First Class)
- **ESOFT-Metro Campus** Colombo, Sri Lanka
Diploma in Information Technology *Jan. 2014 – Jun. 2014*
Overall Grade: A

EXPERIENCE

- **SUTD-MIT International Design Centre** Singapore University of Technology and Design, Singapore
Research Assistant (full-time) *July 2019 - July 2021*
 - **Anomaly Detection:** Develop an end-to-end trainable architecture which can identify defect PCB image slices with variable number of images per joint.
 - **Hierarchical Deep Learning Models:** Bio-medical image classification with data hierarchy is presented withing the dataset
- **Data Science Team** Axiata Digital Lab, Colombo
Data Engineer (full-time) *February 2019 - July 2019*
 - **Predictive Model Creation:** Create and deploy predictive models for human behavioural analysis and business analysis.
- **LiveLabs Urban Lifestyle Innovation Lab** Singapore Management University, Singapore
Research Assistant (full-time) *July 2017 - December 2017*
 - **Energy Harvesting and Localization using WiFi:** Develop a battery free device which can harvest energy from Wi-Fi signal using signal beam forming and able to give alert to an external party in case of fall of the wearer.
 - **Hand Gesture Recognition and Gesture Tracking:** Explores the possibility of using wrist-worn devices (specially, a smartwatch) to accurately track the hand movement and gestures.

PUBLICATIONS

Google Scholar Profile (Citations:139, h-index: 3 as of July 2021)

- **Jayasekara, H.**, Jayasundara, V., Mohamed, A., Rajasegaran, J., Jayasekara, S., Seneviratne, S. and Rodrigo, R., Characterizing Electrocardiogram Signals using Capsule Networks. *Advances in Neural Information Processing Systems, LMRL Workshop (NeurIPS Workshops)*, 2020. (oral)
- Jayasundara, V.*, **Jayasekara, H.***, Samarasinghe, T., and Hemachandra, K., Device-Free User Authentication, Activity Classification and Tracking using Passive Wi-Fi Sensing: A Deep Learning Based Approach, *IEEE Sensors Journal (Sensors)*, 2020.
*equal contribution
- Jayasundara, V., Jayasekara, S., **Jayasekara, H.**, Rajasegaran, J., Seneviratne, S. and Rodrigo, R., 2019, January. TextCaps: Handwritten Character Recognition With Very Small Datasets. *IEEE Winter Conference on Applications of Computer Vision (WACV)*, 2019. (oral)
- Rajasegaran, J., Jayasundara, V., Jayasekara, S., **Jayasekara, H.**, Seneviratne, S. and Rodrigo, R., 2019. DeepCaps : Going Deeper with Capsule Networks. *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2019. (oral)
- Tran, V.H., Misra, A., Xiong, J. and **Hirunima, N.**, 2017, November. Can WiFi Beamforming Support an Energy-Harvesting Wearable?. *ACM International Workshop on Energy Harvesting and Energy-Neutral Sensing Systems*, 2017. (oral)
- Zhang Q., Zhang M., Gamanayake C., Yuen C., Geng Z., **Jayasekara H.**, Zhang X., Woo C. W., Low J., Liu X., Deep Learning Based Defect Detection for Solder Joints on Industrial X-Ray Circuit Board Images. *IEEE International Conference on Industrial Informatics (INDIN)*, 2020. (oral)

PENDING PUBLICATIONS

- **Jayasekara H.**, Zhang Q., Yuen C., Gamanayake C., Woo C. W., Low J., Liu X., Detecting Faulty Joints in Multi-Sliced PCB X-Ray Images with Outlier Exposure. *IEEE Transactions on Automation Science and Engineering, (T-ASE)*.

RESEARCH INTERESTS

- Machine Vision and Image processing
 - Image Classification
 - Anomaly Detection
- Signal Processing with Deep Learning
 - Deep Learning Architectures
 - Audio signal processing
 - Bio-medical signal processing

SKILLS

- Python
- Deep learning frameworks: Keras, PyTorch, TensorFlow
- Machine learning frameworks: MATLAB 2016b, Spark-ml
- Database: MongoDB
- Other: Android Studio, GNURadio, Arduino, MikroC, Verilog
- Have worked with workstations and servers with multiple GPUs

ENGINEERING RELATED ACHIEVEMENTS

- Winner - Robotics competition 2016 organized by the IEEE WIE student branch affinity group, University of Moratuwa.
- Finalist - Robofest 2016 Robotics competition organized by the Sri Lanka Institute of Information Technology.
- Finalist - Inspire Sri Lanka: A tech competition organized by Mobitel Innovation Centre.

PROFESSIONAL SERVICE AND TEACHING EXPERIENCE

- Currently I am mentoring two undergraduates from SUTD under UROP and I have mentored two interns on deep learning projects.
- I conducted Robotics workshops for university students in association with the WIE of University of Moratuwa.
- I regularly volunteers as a teacher in under privileged high schools.

PROFESSIONAL AFFILIATIONS

- **Secretary**, Industrial Applications Society (IAS) of University of Moratuwa
- **Student Member**, Institute of Electrical and Electronics Engineers (IEEE), IEEE Industrial Applications Society (IAS), IEEE Power & Energy Society (PES), IEEE Women In Engineering Affinity Group

SCHOLARSHIPS

- Arthur V. Dias Memorial award in 2013 for higher academic achievements in GCE Advanced Level examination.
- The Public Service Mutual Provident Association Scholarship for highest academic achievements in 2013 GCE Advanced Level examination.