SRIKRISHNA IYER

Senior Research Engineer

Data Analytics and strategic technology center (DA STC)

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EDUCATION

Nanyang Technological University, School of Electrical and Electronics   Aug 2019 – Sep 2020
Master of Science (MSc) in Computer, Control, and Automation
- Thesis: Vital signs monitoring using mm-wave radars with machine learning
- Advisor: Dr. Muhammad Faeyz Karim

Vellore Institute of Technology, School of Electronics   July 2015 – July 2019
Bachelor of Technology (BTech) in Electronics and communication
- Thesis: Structural health monitoring of railway tracks using IoT-based multi-robot system
- Advisor: Dr. Velmurugan T

RESEARCH EXPERIENCE

ST Engineering, Singapore   Sep 2022 – Present
Senior Research Engineer
- Developed a graph-attention-based GAN for realistic spatio-temporal time-series generation and recommended a metric to evaluate fidelity and diversity of the generated data.
- Currently exploring model-agnostic and model-specific explainability techniques for objection detection models using language grounding.

ASMPT Pvt. Ltd. Singapore   Sep 2020 – Aug 2022
R&D Data Analyst I
- Built anomaly detection and quality prediction models to detect data drifts in production and classify defects (destructive and constructive QA) in wire bond equipment.

NCS Pvt. Ltd., Singapore   June 2020 – Aug 2020
Research Intern
- Designed a people counting and tracking system using mmWave radars for medium to long-range detection.

Nanyang Technological University, Singapore   Sep 2019- May 2020
Graduate Research Assistant (*with Dr. Muhammad Faeyz Karim*)
- Engineered a wireless health monitoring system using frequency modulated continuous wave (FMCW) mmWave radars and utilized the extracted phase signals for arrhythmia detection using a neural network.
- Incorporated a medically accepted biomarker named pulse transit time (PTT) to wirelessly measure (predict) blood pressure using a dual-radar system.

PUBLICATIONS

1. **GAT-GAN: A Graph-Attention-based Time-Series Generative Adversarial Network**
   <u>**S. Iyer,**</u> TT Hou
   Arxiv preprint (Under review at NeurIPS 2023)

2. **mmWave Radar based Vital Signs Monitoring and Arrhythmia Detection using Machine Learning**
   <u>**S. Iyer**</u>, L. Zhao, M. P. Mohan, F. Zhong, M. Y. Siyal, A. Alphones and M. F. Karim
   Sensors MDPI 2022

3. **Structural health monitoring of railway tracks using IoT-based multi-robot systems**
   <u>**S. Iyer**</u>., Velmurugan, T., Gandomi
   Neural Computing & Applications 2020

4. **Antlion optimization and Whale optimization Algorithm for multilevel thresholding segmentation**
   <u>**S. Iyer**</u>, A. P. Nadkarni and Padmini T. N
   Innovations in Power and Advanced Computing Technologies (i-PACT) 2019

5. **Support Vector Machine based Spectrum Handoff Scheme for Seamless Handover in Cognitive Radio Networks**
   <u>**S.Iyer,**</u> Velmurugan T, Prakasam P and Suresh Kumar T R
   Concurrency and computation: Practice and Experience 2023

PATENTS

1. *Under review:* **Non-Invasive Blood Pressure Monitoring Using Dual mmWave FMCW Radars with Machine Learning**
   <u>**S. Iyer,**</u> M.F. Karim, M. P. Mohan, F. Zhong and L. Zhao
   (Singapore Patent Application No. 10202009121P)