**Randy Jonathan Namburi**

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**Stamp: 1G**

# PERSONAL PROFILE

# Seeking a challenging career opportunity in a reputed organization to build on my technical skills in the fields of engineering and project management for the growth of the organization as well as to enhance my knowledge about new and emerging trends in the related sectors.

# WORK EXPERIENCE

**ECIL – Intern;** *May 2019 – June 2019*

* Worked on the development of a signature detection and verification system using soft computing.
* Tested the performance of Self-organizing map, SVM and RBF Kernel when detecting forgeries.
* Used MATLAB for building the solutions and testing them out.
* Debugging and problem solving for critical issues.

# PROJECTS

**Real Time Anomaly Detection using Edge Devices**

* Implementation of architectures based on cloud and edge computing to detect anomalies in a network which uses sensors.
* Implemented a cloud architecture where the Edge nodes send the data from their sensors to a central node to detect anomalies.
* Implemented a fully connected peer to peer (p2p) architecture and a partially connected peer to peer (p2p) architecture where each node will make a decision whether an anomaly is present in the network.
* Deployed various machine learning models like Logistic Regression, Random Forest, KNN and LSTM to compare their performance when Raspberry Pi 3B+ has been deployed in the Edge nodes for detecting temperature anomalies.
* Demonstrated that partially connected P2P architecture is best fit for anomaly detection for detecting anomalies with less complexities and security are taken along with reliability of the architecture.

**Deployment of Deep Neural Network Accelerator on SoC FPGA for Edge applications**

* Deployed pruned versions of Deep Neural Networks like RESNET50 on Zynq Ultra96 v2 FPGA board.
* Designed the DSP blocks using Vivado Software.
* Demonstrated that pruned versions of Deep Neural Networks run faster on a FPGA board while also maintaining high accuracy results.
* Interfaced Logitech C270 camera with FPGA board using UART for live testing.
* Debugging and collaboration with the project group for the successful completion of the project

**LoRaWAN based IoT alert system**

* Designed a device which captures heart beat data sends them to LoRa receiver which continuously monitors for any anomalies.
* JSON payload is transmitted from the transmitter which has information related to latitude, longitude and heartbeat.
* Used TTGO LoRa32 v2.1 ESP32 dev kit to transmit and receive data and MAX30102 to capture heartbeat data.

# TECHNICAL SKILLS

**Programming Languages:** C, C++, python, java, Verilog, VHDL, MATLAB

**Software Packages:** MATLAB, Keras, Multisim, NgSpice, Eagle, Yocto and Keil

**DevOps:** CI/CD GIT (Continuous Integration/ Continuous Deployment), Github, Jenkins

**Operating Systems:** Linux, Windows

**IDE:** Eclipse, Qt, Visual Studio

**ISA:** Basic Knowledge of RISC-V architecture

# EDUCATION

**Dublin City University, Electronic and Computer Engineering | Master of Engineering (MEng)** | Dublin, Ireland | November 2022

Concentrations: Embedded Systems, Cryptography, DSP, Machine Learning, Artificial Intelligence, Computer Science | Grade: 2.1

**Visvesvaraya National Institute of Technology, Electronic and Communication Engineering | Bachelor of Technology (BTech)** | Nagpur, India | September 2020

Concentrations: Embedded Software, Wireless Processing, DSP, Machine Learning, Image Processing, Computer Vision | CGPA: 6.72

# PUBLICATIONS

**An Annular Ring antenna with slotted ground plane for dual band wireless applications**

Namburi Randy Jonathan, Tangalla Manoj Kumar, Paritosh Peshwe, Srinivas Doddipalli, Ashwin Kothari. 2018 ICETE 2019, 22-23 March 2019, Osmania University, Hyderabad. DOI:10.1007/978-3-030-24318-0\_37