MANU CHAUDHARY

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EDUCATION

University of North Carolina at Charlotte *June 2019*
Master of Science in Electrical and Computer Engineering *GPA: 3.43/4.0*
Relevant Course Work-Advanced Embedded Systems, IoT, Advanced IoT, Embedded Operating System, Big Data, Wireless Sensor Network, VLSI

Gautam Buddh Technical University, Lucknow India *June 2013*
Master of Technology (VLSI)

Uttar Pradesh Technical University, Lucknow India *May 2008*
Bachelor of Technology (Electronics & Communication)

TECHNICAL STRENGTHS

Languages	Java, C, Embedded C, Android Studio, C++, Python, VHDL, Shell Scripting
Tools	TI Code Composer Studio, Eclipse, Latex, Cooja , Contiki OS, QEMU, Hadoop, Amazon Web Services(AWS), Google Cloud Platform, MySQL, LAMP
Hardware Platforms	Arduino, MSP430 Lauchpad, Tiva C Series TM4C123G LaunchPad, Raspberry Pi

MASTER'S THESIS

A Wireless Sensor Network Breadcrumb Trail For An Autonomous Vehicle *August 2018 - May 2019*

Under the guidance of Dr. James M. Conrad in ECE department at UNC, Charlotte

- Designed a prototype of breadcrumb network using Raspberry Pi, XBee and GPS modules.
- Implemented a power on algorithm for a node to identify its neighbours.
- Implemented an algorithm to localize nodes when GPS data is absent using RSSI.

EXPERIENCE

Krishna Engineering College, Ghaziabad, India *July 2013 - June 2017*
Assistant Professor

- Taught labs with engineering experiments to challenge students.
- Increased student's learning retention by using specific teaching methods adapted to student's needs.
- Taught Analog Integrated Circuits, Communication Systems and Embedded Systems

ACADEMIC PROJECTS

Fedex Package Tracking System *September 2017*

- Dynamically calculated shortest path for package delivery using Dijkstra's Algorithm.
- Developed a multi-threaded tracking system for tracking package.
- Implemented a GUI for creating a shipment and keeping track of the travel history.

Automatic Collision Detection and Avoidance System for Autonomous Cars *October 2017*

- Designed an Android application to simulate car racing physics using 2D graphics.
- Real-time communication from Raspberry Pi to the Android App was implemented to update car specifications using MQTT.
- Collision detection, collision avoidance, and lane detection was implemented.

Intrusion Detection Using Raspberry Pi *November 2017*

- Detects intrusion using PIR sensor connected to the Raspberry Pi.
- When intrusion is detected, a buzzer goes high and a picture of the intruder is taken from a webcam.
- These images e-mailed to the owner and stored in a webserver.

Top meaning from websites of one thousand words using MapReduce *April 2018*

- Developed a MapReduce code using java to find the top meaning of the thousand words scrapped from ten websites.
- Used jsoup on single node Hadoop cluster to scrap meanings of words.
- Developed a code to translate these words into French, German and Spanish.

Embedded Linux for ARM *September 2018*

- Performed bare metal programming for linux modules and device drivers.
- Booted Linux on QEMU emulator, using U-boot for ARM Versatile PB.

Fog Computing for Real-Time Traffic Analysis and Congestion Control *September 2018*

- Implemented a level called fog, situated between the edge devices and cloud to reduce latency.
- Traffic detection & shortest alternative path using Images, GPS location, source, and destination.