UTSAV TRIVEDI

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PROFESSIONAL SUMMARY

I am a final-year Computer Systems Engineering student wanting to work in the embedded systems and internet of things industry. I have experience and interests in automation testing, front-end software development, software-hardware integration, digital design, embedded systems design and analogue design.

EDUCATION

University: The University of Auckland   *March 2017 - Current*
Degree: Bachelor of Engineering (Honours)
Specialisation: Computer Systems Engineering
Status: International Student
Related Coursework: Embedded Systems Design, Digital Systems Design, Analogue and Digital Systems Design, Computer Architecture, Object Oriented Programming, Software Design Practice and Control Systems

TECHNICAL EXPERIENCE

C (Embedded systems design)
Esterel (Real-time embedded systems design)
C++ (Emergency services system application)
VHDL (Game design on a FPGA)
Analogue Design (Simulations of circuits in LTSpice, sensor design and signal conditioning)
MATLAB
Python (Automation testing, User interface (Qt) and basic web app API development)
Java (Game design, SFTP Client/Server application using TCP protocol)
Javascript (Desktop app in ElectronJS and front-end app development ReactJS)
LaTeX (IEEE Reports, CV and cover letter)

WORK EXPERIENCE

Radio ATE Software Intern   *November 2019 - February 2020*
Company
Mimomax Wireless Limited
Responsibilities
Developed device drivers for RF measuring devices
Developed a testing framework for RF and FPGA engineers to use with radios
Implemented a raspberry pi link for their FPGA regression tests

Camera ATE Software Intern   *November 2018 - February 2019*
Company
Teknique Limited
Responsibilities
Tested and compared open source solutions for their face recognition project
Researched solutions for porting desktop models to camera modules
Developed stress tests for camera modules

ACADEMIC PROJECTS

Kalah Game in Java
March 2020 - June 2020

This project focused on questioning object oriented design principles using empirical studies. I designed a game based on the board game Kalah in Java documenting the process of realising the context and evaluating if my design could handle changes in client requirements easily. This project is available on GitHub.

Real-Time Embedded Systems Design
March 2020 - May 2020

This is a university assignment where I learnt to design real-time embedded systems using the asynchronous approach and FreeRTOS tool. Off-nominal power supply in a network damages the power system if not monitored and balanced. I designed a frequency relay controller to operate at the household level for detecting changes in frequency and make decisions in real-time for shedding and reconnecting loads. Concepts like task based concurrency, synchronization, hardware/software partitioning as well as controlling memory mapped I/O peripherals were emphasized on. This project is available on GitHub.

Autonomous Pacman Robot
July 2019 - November 2019

This was a university team project where a path-finding robot senses light to navigate a maze and eat food pellets. It involved applying skills like circuit design, pcb design, embedded software development on a PSoC and digital systems design to use peripherals like ADCs. I was responsible for the analogue design of the robot's sensor information where I simulated proof of concept light sensing circuits on LTSpice, designed the final circuit using components like phototransistors for sensors, LEDs for monitoring component health and op-amps for signal conditioning.

EXTRACURRICULAR ACTIVITIES

Fo Guang Shan Monastery
January 2018

I volunteered for the annual Happy Camp which brings school children all over Auckland together to learn about the principles of Humanistic Buddhism while engaging in fun activities.

HOBBIES

I like to compose, produce and perform music, explore new cuisines, make different kinds of tea, read books and participate in competitive table tennis tournaments.

REFERENCE

References upon request.