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Electronic Engineer

PROJECTS

CUBE

A handheld device comprising of 6 OLED screens for each face on a cube. This project required design of circuits for battery management and voltage regulation, 3D modelling of the frame, as well as efficient C code to run 6 screens and a 6 DOF sensor off an ESP32.

KiCAD / FreeCAD / Git



Orthodox

A unique ortholinear keyboard. This project required custom designed keycaps to simplify the keyboards aesthetic, as well as hall effect sensors for certain keys to allow for analog keypresses, a custom driver had to be written to allow for seamless integration of the keyboard with computers

KiCAD / FreeCAD / OpenSCAD / Git



EXPERIENCE

RF Test Engineer

Curvalux 2021-2022

- Translated proof of concept MATLAB code for phase tapering/beam steering a phased array antenna into working code on early prototype hardware.
- Developed necessary python libraries to control rotators, switches, keysight VNAs and beamforming ICs for automating radiation pattern measurements in a custom anechoic chamber.
- Professionally collaborated and documented repositories using gitlab, jira, confluence and slack.

Research & Development Engineer

Huawei 2019-2020

- Analysing reliability of devices with PAM4 / NRZ inspection, shear testing, electroluminescence inspection.
- Built a standalone program with PyQt to automatically produce failure analysis reports from data gathered by lab technicians, saving countless engineering hours on a repetitive manual task.
- Developed a python library to communicate with a TEC controller over the serial protocol.
- Presented weekly meetings to inform senior engineers of device failures and reliability.

Hardware Engineer

Avalon 2018-2019

- Tasked with designing and soldering the power management PCB for an underwater ROV
- Had meetings with suppliers to discuss partnership/sponsorships for the competition.
- Regularly liaised with engineers from different disciplines to check compatibility.
- Managed my time effectively to balance commitments to University and Avalon.

Design Project

Global Engineering Challenge 2018-2019

- Tasked with diagnosing diseases in Kibera, exploratory research led to designing mobile retina scanners.
- Used TensorFlow and an NHS dataset to train a model to determine diseases based on symptoms visible in retinas.
- Pitched the proof of concept in front of a crowd of 30+ people, receiving questions for 10 minutes.

REFERENCES

Jason Hanson Princial RF Engineer
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Xiaoli Chu Ph.D Wireless Communications
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EDUCATION

Bachelor of Engineering University of Sheffield 2017-2021
Electronic Engineering: 1st

A-Levels Dunraven 2015-2017
Mathematics B
Physics B
Computing B

GCSEs (11 Qualifications Passed) Harris Academy 2010-2015
Mathematics A
Science A
English B