MATTHEW YONG

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EDUCATION

University of Melbourne, Melbourne July 2018 - November 2020
Masters of Engineering, Electrical Engineering.

University of Melbourne, Melbourne July 2015 - July 2018
Bachelor of Science, Bionengineering-Systems.

Coursework: Data Structures & Algorithms, Object Oriented Design, Cloud Computing. Embedded Systems, Computer Networking, Control Systems, Signal Processing, Circuit Design.

PROJECTS

Online C Web Editor and Compiler - (Link to Application, GitHub Link)

- Developed an online web IDE , allowing users to edit, compile and run C code.
- Implemented RESTful and OOP based web server using C++ and Poco Libraries.
- Designed front end user interface with HTML, CSS and Javascript Bootstrap.
- **Utilized**: C++, AWS, Git, HTML, CSS, Javascript, Bootstrap, RESTAPIs, JSON.

Twitter Analytics Cloud Project - (GitHub Link)

- Developed scripts using Ansible to perform cloud provisioning & setup a scalable cluster system.
- Managed cloud resources on Linux based cloud instances using SSH and Bash.
- Collaborated with group members in an Agile environment using ZenHub.
- **Utilized**: Ansible, SSH, Bash, Linux, Git, CouchDB, Docker, Apache2, ZenHub.

IoT Greenhouse Management System - (Link to Application, GitHub Link)

- Developed a web application that reads live data from greenhouse sensors.
- Designed responsive front-end user interface using Materialize, Chart.js and JQuery.
- Programmed ESP8266 web server in C++ and Arduino to handle requests from web client.
- **Utilized**: JQuery, Materialize, Chart.js, Express.JS, Electronic Sensors, ESP8266 WiFi.

Embedded Electronic Game Console - (GitHub Link)

- Programmed games such as Pong and Flappy Bird using C and AVR Studio.
- Implemented serial communication between micro-controller to external modules using SPI.
- Designed PCB board on Altium and soldered on components.
- **Utilized**: C, SPI, AVR Studo, Embedded Systems, PCB design, JTAG, soldering, Altium.

WORK EXPERIENCE

University of Melbourne - Research Assistant
July 2019 - August 2019

Project : Spatially Adaptive Photographic System

- Developed a Python to C++ communication system using TCP/IP socket programming.
- Designed a caching mechanism on Python socket server using multiprocessing.
- Configured Linux unit system files to automate program execution on RaspberryPi.
- Improved robustness of system to crashes by implementing auto restarting capabilities.
- **Utilized**: Raspberry Pi, C++, Python, I2C, Git, Linux, Socket Programming, Multi-Processing.

University of Melbourne - Research Assistant
Jan 2018 - Feb 2018

Project : EMU Upper Limb Rehabilitation Robot

- Proposed mechanical solutions for current robot design, reducing material costs to about 20%.
- Taught myself Computer Aided Software Design on SolidWorks.
- Collaborated & communicated with supervisors for feedback on designs.

EXTRA-CURRICULAR

- Represented Victoria in the Under-22 Ultimate Frisbee State Championships in 2017.
- Represented Melbourne University's Ultimate Frisbee Team for Uni Games since 2015.