Chad Paik

3A Mechatronics Engineering

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Summary of Qualification

Programming Language	Python, MATLAB, C/C++
Markup Language	LaTeX, HTML, CSS
Software/Tools	Keras, Jupyter Notebook, Git, Android Studio
Embedded Systems	Arduino, Raspberry Pi, FPGA, Keil Board
Electrical Design	Circuit Theory, Power Electronics, Breadboard Prototyping, Soldering, Cable Routing

Experience

First Year Engineering Department-University of Waterloo
Waterloo, ON

General Weef TA — *2017*

- Supported 6 different first year courses through sessions and office hours
- Developed strong foundation in linear algebra, newtonian mechanics, and system modelling through teaching
- Hosted 4 Evening Help Sessions every week for 2 hours attended by 50 students on average
- Presented twice the expected exam review sessions throughout the term with 250+ students in each sessions

BBCR Lab-University of Waterloo
Waterloo, ON

Wireless Vehicular Technology Research Assistant — *2017*

- Utilized Socket Programming through Python to develop test procedures for Vehicular Network Research
- Performed data transfer such as text, images, and videos between different nodes connected in the same network to test latency
- Implemented neural net in the test procedure involving image classification to test the effect of packet loss in data transfer

Agfa Graphics
Mississauga, ON

Junior Hardware Engineer — *2016*

- Implemented multiple modular hardware design changes in the main machine that reduced the total assembly time by 2 hours
- Assembled test fixture for testing the functionality of motors before they were installed on the main machine
- Created a user-friendly device for testing proper grounding, allowing non-technical users to test the connection
- Familiar with assembling power electronic components and wiring harnesses through participating in printer assemblies
- Experience in industrial power electronics and safety regarding EMI and proper grounding

Projects

MTE241- Real Time Operating Systems
Waterloo, ON

Embedded System Game — *2017*

- Programmed an obstacle dodging game on Keil Board embedded system using C
- Utilized multiple peripherals such as joystick, push buttons, and LCD Display to control and display the game
- Applied semaphores, and multithreading to manage resources and different tasks to achieve smooth gameplay

Project Beowulf (Design Team)
Waterloo, ON

Co-Executive — *2015-PRESENT*

- Prototyped an exoskeletal glove for enhancing grip strength for Biomechatronics Design Team
- Programmed SVM, Softmax, and neural network using Python to predict hand position using EMG data
- Utilized Myo-Armband to collect raw EMG data and Raspberry Pi to control the actuation
- Selected as top 100 projects to be competing in the final round of Hackaday Prize (https://hackaday.io/project/13993-beowulf)

Education

University of Waterloo
Waterloo, ON

Candidate for Bachelor of Applied Science, Honours Mechatronics Engineering — *2015 - PRESENT*

- Ranked 7 out of 97 in 2A Term