Hubert Deng

(919)995-0736
hzdeng2@illinois.edu
Personal Website: http://hubertdeng.com
505 S. Fourth St -306
Champaign, IL, 61820

Education

University of Illinois at Urbana-Champaign — Expected Graduation Date: May 2020
B.S. Computer Engineering — 3.70/4.0 GPA
IEEE-Eta Kappa Nu Member

Relevant Coursework:

- Data Structures, Computer Systems Engineering, Analog Signal Processing, Algorithms and Models of Computation, Machine Learning, Blockchain and Smart Contracts

Professional Experience

Caterpillar - Software Engineering Co-op — **May 2018 – Present**
HEX Autonomy Team — **Peoria, Illinois**

- Implementing and training convolutional neural networks for the NVIDIA Jetson TX2 and NVIDIA Drive PX2
- Porting a personnel detection application using the histogram of oriented gradients to CUDA
- Optimizing the runtime of the algorithm by taking advantage of the parallel processing libraries provided by CUDA

Technical University of Denmark - Research — **June 2017 - August 2017**
Automation and Control — **Lyngby, Denmark**

- Developed project written in Python that achieved supervised learning in robotic joints
- Worked with code featured a Spiking Neural Network simulated on SpiNNaker
- Expanded on a closed loop feedback controller featuring a cerebellar microcircuit to mimic the learning of the human cerebellum
- Tested the scalability of a neuro-inspired robotic controller to control robotic joints through the expansion onto a system of robotic modules

Meiya Pico - Software Engineering Intern — **June 2015 - August 2015**
Team Member — **Xiamen, Fujian, China**

- Developed an application to retrieve information from websites in Python using the Beautifulsoup package
- Designed a GUI interface that helped the company retrieve data from a variety of sites
- Project parsed through HTML to sort the websites based on date and relevance
- Application used by the company to retrieve recent relevant data for the news team

Projects

Operating System — **February 2017-May 2017**

- Linux operating system coded in C and x86 Assembly
- Implemented processor initialization including paging, IDT, GDT, and devices
- Loaded terminal driver, file-system, and real-time clock driver
- Supported system calls and round robin task scheduling, with userspace and kernel space execution

Fitness Android Application — **June 2018-Present**

- Developing fitness application that customizes workouts based on personal goals
- Displays a plan of suggested workouts in order to accomplish certain goals in a specific time period
- Progress is tracked based on changes in personal weight and personal records

Personal Website (hosted with Github Pages) — **Dec 2017-Present**

- Developed personal website written in HTML, CSS, and Javascript
- Used Bootstrap and JQuery libraries to design the interface of the site

Autonomous Moving Car — **Aug 2016-Dec 2016**

- Created a line following car powered by Arduino RedBoard navigating through sensors
- Coded in C to decipher the signals being sent from sensors to the Arduino RedBoard

Technical Skills/Interests

- **Programming (Proficient)**: C++, C, Java, Python, x86 Assembly
- **Programming (Basic)**: MATLAB, Arduino , HTML, CSS, Javascript, CUDA
- **Tools**: Git, Apache Subversion, CMake
- Fluent in Mandarin