

HENGYI LIN

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Contact Information

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Objective

To obtain an internship as a software engineer, available from May 2019

Education

Purdue University

West Lafayette, IN

Master of Science in Electrical and Computer Engineering

Related Coursework: Neural Networks, Computational Algorithm, Random Variables (In Progress), Distributed Systems (In Progress)

May 2020

GPA: Unknown / 4.0

Purdue University

West Lafayette, IN

Bachelor of Science in Computer Engineering

Related Coursework: Python, Android Development, Data Structure, Computer Architecture, Compilers

May 2018

GPA: 3.72 / 4.0

Ongoing Project

Omniscient Discord Bot

Dec 2017 --- Present

- Create a bot application in a discord server that can reply messages according to the users' input, store user-customized Q&A messages in Google Firebase database, and forward posts from social media to the discord server

Past Projects

Oct 2018 --- Dec 2018

Financial Trend Prediction

- Applied the idea of wide and deep machine learning model proposed by Google to predict the increasing or decreasing trend of financial data (NASDAQ 100 dataset)
- Achieved a training and testing accuracy of around 85%
- Learned theoretical knowledge of neural network and practical application method of machine learning models
- The source code and the design architecture can be found [here](#)

TADA App

Jan 2018 --- May 2018

- Improved the user experience of TADA (Technology Assisted Dietary Assessment) app, an Android app that manages users' dietary activities
- Added a weight monitoring feature with line graphing to allow users keeping track of overall weight trend
- Created a bar graph in the calorie counter feature to visualize the amount of daily calorie expenditure
- Learned various techniques of Android programming, testing and debugging
- A brief introduction of the project and the team can be found [here](#)

Dual-core Processor

Jan 2018 --- May 2018

- Created a dual-core processor with pipelining, caching and coherence
- Started from single cycle processor, and proceeded to pipelining, caching and cache coherence implementation
- Designed all components on the datapath such as register file, ALU (Arithmetic Logic Unit), and state machines for data cache and cache coherence (in both memory and data cache)
- Learned computer architecture hierarchy and how the integration of computer software and hardware works

Virtual Sport

Sep 2017 --- Dec 2017

- Developed a VR appliance that allows users to play sports virtually at home
- Utilized STM32F407 microcontroller and embedded C as programming language for the microcontroller
- Developed Virtual Reality environment in Unity3D using C#
- Designed and tested haptics interaction on the handle using vibration motors
- Learned multiple ways of communication between microcontroller and different electronic components
- More details can be found [here](#)

Compiler

Sep 2017 --- Dec 2017

- Developed a compiler translating high-level language to 3 address code
- Utilized ANTLR as the parser
- Created symbol tables recording related parameters for each variable declaration for each scope in the program
- Learned about parse tree, register allocation, loop optimization and other compiler related concepts

Skills

Programming languages

C, Python, C++, Java, HTML, CSS, Javascript, Verilog, SystemVerilog, Assembly

Programmable Hardware

FPGA, STM32 microcontroller family, Arduino

Tools and Technologies

jQuery, Google Firebase, Android Studio, PyCharm, Visual Studio Code, Atom, MicroVision, STM32 CubeMX, Git