Lei Wang

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Education

Texas A&M University — *College Station, United States*

PhD in Computer Engineering — *Aug. 2019 - Present*

- Advisor: Dr Paul Gratz

Imperial College London — *London, United Kingdom*

Bachelor of Engineering in Electrical and Electronic Engineering, Second-class honours, upper division (2.1) — *Oct. 2016 - Jun. 2019*

- BEng Final Year Project: A high level schematic editor for simplified Hardware Description Language (HDL) Entry

Skills

Programming C, C++, Verilog HDL, Arm Assembly, Matlab, Python, HTML, CSS, JavaScript, SQL, F#

Frameworks Flask, Electron, Fable, Node.js

Languages Chinese(Native), English(TOEFL 106, IELTS 7.0), Japanese(JLPT N3 Pass)

Extra Autodesk AutoCAD, STM32CubeMX, Keil, Visual Studio, LaTeX, Microsoft Office, git, Chinese flute (Dizi)

Experience

Texas A&M University — *College Station, United States*

ECEN 350 Computer Organization and Design Grader — *Aug. 2020 - Dec. 2020*

- Grading and giving feedbacks on students' exercises and labs.

Texas A&M University Robomaster Society — *College Station, United States*

TAMU Robomaster Robotics Advisor — *Aug. 2020 - Present*

- Working with the embedded and the computer vision teams.
- Writing and debugging code in C/C++ for ARM cortex M4 processor.
- Advise on the control of the robots used for Global Robomaster Competition.

Imperial College Union — *London, United Kingdom*

Student System Administrator (Part time) — *Nov. 2018 - Mar. 2019*

- Working with the Imperial College Union Administration Team.
- Configuring and maintaining WordPress websites for student clubs and societies at Imperial College London.

Fleetonomy — *Tel Aviv, Israel*

Software Engineering Intern (Full time) — *Jul. 2018 - Sep. 2018*

- Developing the testing interface as part of a Uber-like web application in Python, JavaScript and SQL.
- Worked on frontend, backend, unit test and database.
- Worked on integrating third-party monitoring services such as Datadog via API calls to the web application.

Summer Academy of Code — *Oxford, United Kingdom*

Learner — *Sep. 2017*

- Learning dynamic website developing and hosting.
- Developed an online accounting application using Node.js.

Global IELTS — *Changshu, China*

English Teacher (Part time) — *Jul. 2017 - Aug. 2017*

- Teaching students English reading, listening, speaking writing and vocabulary to prepare for TOEFL (English proficiency exam).

Piwars — *Cambridge, United Kingdom*

Competitor — *Apr. 2017*

- Robotics competition. Teamed up with BigSubhakrish Krishnamra, Haojun Zhang, Hang Su and Ruochen Zhao.
- Designed and built a functional remote-control car based on the Raspberry pi with sensors.

Global IELTS — *Changshu, China*

English Teaching Assistant (Part time) — *Aug. 2016 - Sep. 2016*

- Teaching students to learn and to memorize English words required for English proficiency test.

Projects

Encryption Algorithm
London, United Kingdom

School Coursework *Dec. 2016*

- RSA-based encryption decryption system written in C++.

2048
London, United Kingdom

School Coursework *Feb. 2017*

- Command line interface implementation of the classic 2048 game, written in C++.

First Year Project
London, United Kingdom

School Coursework *Nov. 2016 - May. 2017*

- Built a remote-control rover with the capability of detecting waves and calculating the corresponding frequencies.

Personal Website
London, United Kingdom

Personal Project *Apr. 2017*

- Personal website development in HTML, CSS, JavaScript. Deployed in AWS S3.

Second Year Project
London, United Kingdom

School Coursework *Nov. 2017 - Mar. 2018*

- Gloves with sensors built in to detect palm facing, acceleration and finger bending for sign language translation.
- The readings from sensors are used in training machine learning models.
- Sign language translation achieved by feeding sensor readings to machine learning models.
- https://wilsonwang881.github.io/Glovoice/

A Web-based Price Calculator
London, United Kingdom

Personal Project *Nov. 2018*

- Used for applying internship at UNiDAYS.
- https://wilsonwang881.github.io/UNiDAYSApplication/

Adding Features to Visual2, the Arm Assembly Simulator
London, United Kingdom

School Coursework *Jan. 2019 - Mar. 2019*

- Teamed up with Andrei Pietreanu, Leszek Nowaczyk and Wim van der Schoot. Coding in F# and JavaScript.
- The project added new features to Visual2, including pipelining display, multiplication instructions and improvement to the error messages.

Using FPGA for Algorithm Acceleration
London, United Kingdom

School Coursework *Jan. 2019 - Mar. 2019*

- Teamed up with Yaukuen Lam.
- Configure a FPGA device to run the NIOS II processor.
- Algorithm written in C and uploaded to the FPGA device. The NOIS II processor running on FPGA then executed the C program.
- Explore ways to reduce execution time, including using pipelining, different types of multipliers, and the CORDIC algorithm.
- Customized hardware blocks to realize the CORDIC algorithm with pipelining.
- Result was promising as using dedicated hardware did reduce the execution time significantly. However, the tradeoff was an increase in hardware usage.

Final Year Project
London, United Kingdom

School Coursework *Apr. 2019 - Jun. 2019*

- Cross-platform graphical hardware description language (HDL) editor that outputs Verilog HDL code which can run on FPGA devices, implemented in F#.
- Integrated with the Fable compiler to transpile F# to JavaScript.
- Transpiled JavaScript code run under the Electron framework.

Book-Keeper
College Station, United States

Group Project *May. 2020 - Now*

- Software for handling reimburse requests within the TAMU Robomaster Society.
- Technology stack: React, Nginx, Gunicorn, Python Flask, deployed using Docker.
- https://github.com/GigaMansion/Book-Keeper

Honors and Awards

Graduate Merit Scholarship
College Station, United States

Texas A&M University *Aug. 2020*

- From the Department of Electrical and Computer Engineering.