

Lei Wang

☎ (1) 9797390561 | ✉ WilsonWang2019@tamu.edu | 🌐 wilsonwang.org | 📱 wilsonwang881 | in leiwangwilson

Education

Texas A&M University

College Station, United States

PHD IN COMPUTER ENGINEERING

Aug. 2019 - Present

- Advisor: Dr Paul Gratz
- Research area: computer architecture; optimization for multi-threaded workload, in particular computer games.

Imperial College London

London, United Kingdom

BACHELOR OF ENGINEERING IN ELECTRICAL AND ELECTRONIC ENGINEERING, SECOND-CLASS HONOURS, UPPER DIVISION

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#, Promela

Frameworks Flask, Electron, Fable, Node.js

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

Software Intel Pin, Spin (Formal Verification), LaTeX, STM32CubeMX, Keil, Visual Studio, git, Microsoft Office, Autodesk AutoCAD.

Experience

Graduate Teaching Assistant

College Station, United States

TEXAS A&M UNIVERSITY

Aug. 2021 - May. 2022

- Lab instructor for ECEN 449 Microprocessor System Design (2022 Spring).
- Lab instructor for ECEN 350 Computer Organization and Design (2021 Fall).

Grader

College Station, United States

TEXAS A&M UNIVERSITY

Aug. 2020 - Dec. 2020

- Grader for ECEN 350 Computer Organization and Design (2020 Fall).

TAMU Robomaster Robotics Advisor

College Station, United States

TEXAS A&M UNIVERSITY ROBOMASTER SOCIETY

Aug. 2020 - Jun. 2021

- Work with embedded and computer vision teams for serial port communication and code integration.
- Develop code in C/C++ for ARM-based processor with STM32CubeMX and Keil for robot movement control and wireless signal communication.
- Teach and advise society members for embedded code development and integration.

Student System Administrator

London, United Kingdom

IMPERIAL COLLEGE UNION

Nov. 2018 - Mar. 2019

- Work with the Imperial College Union Administration Team.
- Configure and maintain WordPress websites for student clubs and societies at Imperial College London.
- Respond to requests and inquiries from student society and club website administrators.

Software Engineering Intern

Tel Aviv, Israel

FLEETONOMY

Jul. 2018 - Sep. 2018

- Work on full stack development for a fleet management application similar to Uber.
- Develop unit tests for Python flask backend.
- Develop webpages for visualizing vehicle positions and movements for testing.
- Work on integrating third-party services such as Datadog for system performance monitoring.

Projects

Formal Verification for a Traffic System

College Station, United States

COURSEWORK

Oct. 2021 - Dec. 2021

- Design and verify a traffic system with formal techniques.
- Traffic system implemented in Python flask with a web-page-based GUI.
- Verification done by re-coding the application in Promela and run using Spin, a verification tool for multi-threaded applications.

Book-Keeper

TEAM PROJECT

- Develop software for handling reimburse requests within the Texas A&M University Robomaster Society.
- Technology stack: React , Nginx, Gunicorn, Python Flask, deployed using Docker.

College Station, United States

May. 2020 - Aug. 2020

Final Year Project

INDIVIDUAL PROJECT

- Graphical hardware description language (HDL) editor that outputs Verilog HDL code.
- Implemented in F# and integrated with the Fable compiler to transpile F# to JavaScript.
- Transpiled JavaScript code run under the Electron framework that supports Linux, MacOS and Windows.

London, United Kingdom

Apr. 2019 - Jun. 2019

Using FPGA Hardware for Algorithm Acceleration

TEAM PROJECT

- Configure a FPGA device to run the NIOS II processor.
- Algorithm written in C and uploaded to the FPGA device and executed in the NOIS II processor.
- Explore ways to reduce execution time, including using pipeline, different types of multipliers, and the CORDIC algorithm.
- Implement hardware blocks to realize the CORDIC algorithm with pipeline.
- Results show the use of dedicated hardware reduces the execution time significantly with increase in hardware usage.

London, United Kingdom

Jan. 2019 - Mar. 2019

Adding Features to Visual2, the Arm Assembly Simulator

TEAM PROJECT

- Add new features to Visual2, including pipelining display, multiplication instructions and improvement to the error messages.
- Code in F# and JavaScript.

London, United Kingdom

Jan. 2019 - Mar. 2019

Second Year Project

TEAM PROJECT

- Gloves with sensors built in to detect palm facing, acceleration and finger bending for sign language translation.
- Machine learning model training with readings from sensors.
- Sign language translation achieved by feeding sensor readings to machine learning models.

London, United Kingdom

Nov. 2017 - Mar. 2018

First Year Project

TEAM PROJECT

- Build a remote-control rover that is able to detect electromagnetic waves and measure frequencies.

London, United Kingdom

Nov. 2016 - May. 2017

Honors and Awards

Graduate Merit Scholarship

TEXAS A&M UNIVERSITY

- From the Department of Electrical and Computer Engineering.

College Station, United States

Aug. 2020