# Jeffrey Tsaw

## Contact

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## Coursework

ELEC0024 – Digital Signal Processing and Design (UCL)

ELEC0029 – Electronic Devices and Nanotech (UCL)

18-349 – Introduction to Embedded Systems

18-341 – Logic Design and Verification

15-213 – Introduction to Computer Systems

21-325 – Probability Theory (Honours)

## Technical Skills

**Languages**

Python ■ C ■ SystemVerilog ■ ARM ■ x86-64 ■ MATLAB

**Tools**

Linux ■ Git ■ GDB ■ Simics ■ Windows ■ FPGA

## Activities

**CMU Club Tennis Team**
Aug 2019 – Present
- Quarterfinalist at 2019 USTA Regionals

**London Dragons Varsity Hockey Team**
Jan 2020 – Jul 2020
- BUIHA Division 1 South Champions

**CMU Club Hockey Team**
Aug 2017 – Present

**Asian Student Association**
Aug 2017 - Present

## Interests

- Hockey
- Tennis
- College Basketball
- Football
- Math
- Jazz Music

## Education

**Carnegie Mellon University**
Pittsburgh P.A | Expected May 2021
B.S Electrical & Computer Engineering
- GPA: 3.87/4.00 | Dean's List F17 – S19
- HKN and TBP Honour Societies

**University College London**
London, UK | Study Abroad, Spring 2020
Affiliate Electrical and Electronic Engineering

## Experience

**Credit Suisse Securities**
Technology Analyst Intern | New York, NY (virtual)| Jul '20 – Aug '20
- Designed and developed a 2-stage pipelined model to extract bond tickers, ISINs, and CUSIPs from Bloomberg chat data in an Agile environment
- Trained and tuned an NER model in spaCy to recognise bond information and non-bond entities with over 98% precision and recall
- Successfully extracted over 90,000 bond tickers

**Carnegie Mellon University**
18-349: Embedded Systems TA | Pittsburgh, PA | Aug '20 – Present
- Taught real-time embedded systems concepts in ARM Thumbv2 including serial protocols, timers/interrupts, threading, and scheduling algorithms.

15-213: Computer Systems TA | Pittsburgh, PA | May '19 – Aug '19
- Taught fundamental computer systems concepts including x86-64 ASM, virtual memory, and threading to 30+ students
- Developed undefined behaviour tests against students' implementations of malloc

SI & EXCEL Leader | Pittsburgh, PA | Aug '18 – Present
- Designed and lead supplementary classes for Multivariable Calculus, Physics II, and Physics I for multiple groups of 10-100 students

## Projects

**Power Grid RL Operator**
Quarantine Project | May '20 - Present
- Developed from scratch DQN and Double Duelling DQN agents with PER in Tensorflow to operate a power grid in grid2op environment
- Achieved 3500% increase in operation time before failure in 14 node power grid compared with baseline agent.

**Serial Engine Interface– USB 2.0**
Partner Project for 18-341 | Nov '19
- Implemented IN, OUT, DATA0, ACK, NAK packets and a control FSM to simulate read, write transactions with a thumb drive as part of the USB 2.0 standard

**Resume Job Compatibility Algorithm**
Credit Suisse Coding Challenge | May '19
- Using Python and spaCy, developed and trained NER and NLP models to extract key details from resumes
- Developed an algorithm to use details to find best candidate given a job description
- 1st place at Credit Suisse Coding Challenge