# Alfred Wong

12 Searles Road, London, SE1 4YU
alfred.cl.wong@gmail.com
+44 (0)7516 069692

## Education

| | | | |
|---|---|---|---|
| 2016 - 2020 | **Trinity College, University of Cambridge** | | **1st Class, BA(hons) MEng** |
| | *Part I Mathematics - Part II Engineering* | | |

| | | | |
|---|---|---|---|
| 2014 - 2020 | **Other Qualifications** | | |
| | STEP | STEP II (S), STEP III (1) | GRE | Verbal 167/170, Quant 170/170, Writing 4.5/6 |
| | A Level | 3A* (F Maths, Maths, Physics) | ACT | Composite 35/36, English/Writing 31/36 |
| | | 2A  (Chemistry, History) | GCSE | 11A*, 2A |

## Experience

| | | |
|---|---|---|
| Summer 2019 | **Goldman Sachs** | **London** |
| *Finance* | *Developed a full stack system from scratch, also contributed to some quant analyst work* | |

- Used Java/Spring with a time-series SQL-like DB to collect info from data sources (JMX, DB2)
- Served a JS/React graphical frontend displaying time-series analyses and routing flow indicators
- Worked on various quant projects on the side for the Equities Structured Products Strat Desk

| | | |
|---|---|---|
| Summer 2018 | **PlayFusion** | **Cambridge** |
| *Research* | *Implemented an asynchronous, probabilistic tree search based AI with a distributed self-play setup* | |

- Adapted AlphaZero's APV-MCTS method, applying concurrency-oriented tweaks (Unity/C#)
- Built and deployed an arbitrarily scaling self-play infrastructure on AWS with TCP/IP (Python)
- Ran experiments with a basic two-headed neural network as a placeholder (Keras/Tensorflow)

| | | |
|---|---|---|
| Summer 2017 | **WaterScope** | **Cambridge** |
| *Non-profit* | *Worked on a 3D-printed water-testing microscope for use in developing countries* | |

- Modelled and printed various 3D components to work in conjuction with an RPi and Arduino
- Parallelised image convolutions within a golden-section search to optimise autofocus performance

## Projects

| | |
|---|---|
| 2019 - 2020 | **Balanced Representation Learning and Feature Disentanglement for Medical ML** |

- Masters dissertation with a focus on individualised healthcare and causal graph inference
- Tackling the problem of performing feature selection with consideration for confounding biases
- Worked with GANs, actor-critic RL and representation learning, using Pandas/Keras in Python

| | |
|---|---|
| 2017 - 2018 | **CFU Tracker for Automated Intra-day Water Testing** |

- Multidisciplinary collab with WaterScope involving microbiology, engineering and a field trip
- Used HSV spectrum analysis, computer vision and time-series techniques to improve segmentation

## Leadership and Achievements

- Trinity College Basketball Captain, led 3 sessions a week, promoted to Division 1 by end of year
- First and Third Lower Boats' Captain, coached 100+ novices as a team of 7, fastest NW1 & NW3
- 1st Men's Novice VIII, 9/9 race wins, fastest novice crew across 2700m for the first time in 33 years
- Composed for and led an orchestra, choir, small groups and soloists for a school competition, as a team of 3

- School Symphony Orchestra, played as Concertmaster for Dvorak 9, Violin 2 leader for Beethoven 5
- School Prefect & House Vice-Captain, organised and participated in sports teams across all year groups
- Sat Round 2 of the British Mathematical Olympiad, invited to an Olympiad Training Camp at Oxford
- Represented the English National Junior Chess Squad on an international level in Gibraltar