

Alfred Wong

Trinity College, Cambridge, CB2 1TQ
alfred.cl.wong@gmail.com
+44 (0)7516 069692
aclw3.user.srcf.net

Education

2016 - 2020	Trinity College, University of Cambridge		BA(hons) MEng
	Part I Mathematics (2:1)	Part II Engineering (1st, on track for Distinction)	
	<i>Relevant courses: Linear Algebra, Markov Chains, Numerical Analysis, Inference, Statistical Signal Processing, Optimisation, Probabilistic Machine Learning, Deep Learning & Structured Data, Information Theory</i>		
	GRE Verbal 167/170, Quant 170/170, Writing 4.5/6		
2009 - 2016	Reading School		
	STEP STEP II (S), STEP III (1)	A Level 3A* (Maths 100%, F Maths 99%, Physics 96%)	
	ACT Composite 35/36	2A (Chemistry 88%, History 98% AS)	
	English/Writing 31/36	GCSE 11A*, 2A	

Experience

Summer 2019 3 months	Goldman Sachs, London	Summer Analyst
	Developed a full software stack for flow vis and analysis of a distributed transaction processing system	
	<ul style="list-style-type: none">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 indicatorsReached out to the Structured Products Strat Desk, worked on small quant projects on the side	
	<i>Tech Finance</i>	
Summer 2018 3 months	PlayFusion, Cambridge	Artificial Intelligence
	Researched and designed a custom neural network based AI for use in a newly developed video game	
	<ul style="list-style-type: none">Adapted a concurrent probabilistic tree search algorithm based on AlphaZero, using Unity/C#Built and deployed a distributed self-play computing infrastructure using TCP/IP/Python/AWSEmployed a basic two-headed neural network to drive self-learning using Keras/Tensorflow	
	<i>ML/AI Research</i>	
Summer 2017 2 months	WaterScope, Cambridge	Computer Vision
	Worked on improving a 3D-printed water-testing microscope prototype for use in developing countries	
	<ul style="list-style-type: none">Modelled and 3D-printed a screw drive actuator to connect existing mechanisms to a servo motorParallelised edge detection convolutions within a search algorithm to optimise performanceStarted and consulted on a spin-off image processing project (CFU tracker for water testing)	
	<i>Non-profit Startup</i>	

Relevant Projects

2019 - 2020	Feature selection for individualised treatment effects
	<ul style="list-style-type: none">Medical machine learning, with a focus on individualised healthcare and causal inferenceWorked with GANs, actor-critic RL and representation learning, using Pandas/Keras/Tensorflow
2017 - 2018	CFU tracker for same-day water testing in developing countries
	<ul style="list-style-type: none">Combined traditional computer vision techniques with time-series analysis and machine learningMultidisciplinary collaboration involving microbiology, engineering and a field trip to New Delhi

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 group 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