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Liam L.H. Lau

Education

2017–2020 **University of Cambridge, Gonville and Caius College**, *B.A. Physics.*
First Year: First-Class in Maths and Physics. 2.i in Chemistry and Materials.
Second Year: First-class in Physics A, 2.i in Physics B and Maths
Third Year (In Progress): Core modules including General Relativity & Advanced Quantum Physics. Optional modules including Classical Field Theory (TP1) & Quantum Condensed Matter.
Also attending courses in **Machine Learning** and **Cosmology** out of interest.

2010–2017 **Westcliff High School for Boys**.
A-Levels: 4A*in A level Physics, Maths, Further Maths & Chemistry
GCSEs: 12A*, 1 A. A*'s including: English, Maths, Chinese & Physics
Free-Standing Mathematics Qualification: A (Additional Maths OCR)

Research Experience

Jul–Oct 2019 **Summer Research Student** *KICC, Cambridge, UK*
Dr. Will Handley, University of Cambridge, & Dr. Pablo Lemos, University College London
Astrostatistics & observational Cosmology. Worked on finding the coordinate of maximum tension between Planck and DES data given the LCDM model. Developed software to find a numerical approximation to the coordinate. **Paper in progress for forthcoming publication.**

2018–2019 **Airbus Fly Your Ideas International Competition** *Toulouse, France*
International finalist for Airbus Fly Your Ideas with Team Seren.
Worked on the **modelling and simulation** in C++ and Python of the specific power of the novel system of generating power in space.
Presented in front of a live audience of Airbus employees and judges.

Jul-Aug 2018 **Summer Project Student** *SMF Group, Cavendish, Cambridge*
Dr. John Ellis, University of Cambridge
Simulated electron trajectories in the ioniser of the Scanning Helium Atom Microscope (SHeM) using COMSOL. Tested peltier modules in vacuum and coded the sample cooling and sample heating programs in MATLAB.

Conferences and Workshops

Sep 2019 **KICC 10th Anniversary Symposium** , *KICC, Cambridge, UK.*
Attended seminars and talks given by academics including Lord Martin Rees, Prof. David Spergel, Prof. Jo Dunkley & Prof. Roger Blandford.

Aug 2019 **AstroHack Week 2019**, *KICC, Cambridge, UK.*
Participated in workshops for **Bayesian Statistics** & **Data Visualisation**

Awards and Grants

Jun. 2019	International Team Finalist	*Airbus Fly Your Ideas Competition*
Summer 2019	Undergraduate Summer Research Bursary	*Gonville & Caius College*
	Summer Research Grant	*Kavli Institute for Cosmology, Cambridge*
Summer 2018	Tutor Donation Fund for Summer Research	*Gonville & Caius College*
Nov. 2016	Silver Medal in the British Physics Olympiad	
Jun. 2016	University of Cambridge Senior Physics Challenge	
May 2016	Gold Award in the Cambridge Chemistry Challenge	
Spring 2014	10th Nationally in the FMSQ Year 10 Maths Challenge	

Computational Skills

Programming	Python, MATLAB	*2 Years*
	C/C++	*1 Year*
Computing	Linux, Unix, Bash, LaTeX, vim, git	*2 Years*
Web	HTML, CSS, MySQL, PHP	*6 Months*
OS	Arch Linux, Windows & OSX	*Experienced*

Languages

English	Fluent
Cantonese	Limited Working Proficiency
Mandarin	Basic

Extracurricular

2019–Present **Co-Chair of the Cambridge University Physics Society**.
Organising academic talks and social events for undergraduate physics students. Currently organising an IOP supported joint event between Cambridge, Oxford, Imperial and UCL.

2017–2019 **Captain of the Gonville and Caius College Basketball Team**.
Organised and ran weekly practices for the team to compete in the Cambridge College League.

2018–Present **Coded personal reśumé website**.

2018–Present **Hackathons**.
AI Hack: 3rd Place **GWAS** Project on using logistic regression with single-nucleotide polymorphism data todetermine significant SNPs associated with coronary artery disease.
Oxford Hack: Started a project on a dynamic student calendar.

2014–2016 **Duke of Edinburgh Award: Bronze & Silver**.
Volunteering experience including interacting with disabled individuals at Essex's Disability Inclusion Society. This involved collaborative projects such as planting a visual garden for Basildon Hospital.

2008–Present **Piano**.
Continuation to grade 7. Especially enjoy playing pieces from the Romantic Period.

References

Dr. Will Handley	*+44 (0) 1223 767893, wh260@cam.ac.uk*
Dr. John Ellis	*+44 (0)1223 337410, je102@cam.ac.uk*
Prof. Raphael Blumenfeld	*rbb11@cam.ac.uk*
Sam Lambrick (Graduate Student)	*sml59@cam.ac.uk*