

# Curriculum Vitae

Li, Kwing Hei

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## Basic Info

**Preferred name:** Heili

**Email:** [Hei.Li@cl.cam.ac.uk](mailto:Hei.Li@cl.cam.ac.uk)

**Web:** <https://hei411.github.io/>

## Research Topics

The very heart of my research interests is programming languages. I develop mathematical models and methods that enable us to design, implement, and reason about computer programs, especially those that involve concurrency.

At the moment, I am also interested in related topics, such as formal verification, type theory, and distributed systems.

## Education

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|-------------|--|
| 2022 - Now  | M.Phil in Advanced Computer Science<br>King's College, University of Cambridge<br>Title: Wait-Free Task Solvability of Asynchronous Distributed Models <a href="#">[pdf]</a>               |
| 2019 - 2022 | B.A. Hons. in Computer Science with Mathematics (1st class)<br>Churchill College, University of Cambridge<br>Title: Type Systems for Functional Reactive Programming <a href="#">[pdf]</a> |

## Experience

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| 2022 | Research Intern<br>Max Planck Institute for Software Systems<br>Supervisor: Prof. Derek Dreyer and Mr. Michael Sammler   |
| 2021 | Undergraduate Research Intern<br>University of Cambridge Machine Learning Systems Lab<br>Supervisor: Prof. Nicholas Lane and Dr. Pedro Porto Buarque de Gusmao |
| 2020 | Automation Engineer Intern<br>DreamsAI, Hong Kong  |

## Awards

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| 2022 | Beatrice Blore-Browne Prize Scholarship                                    |
| 2022 | Cambridge Trust and King's College TPP Alan Turing Scholarship             |
| 2022 | University of Oxford Hong Kong Jockey Club Graduate Scholarship (declined) |
| 2022 | Churchill Prize Scholarship  |
| 2021 | Beatrice Blore-Browne Prize Scholarship                                    |

2021	Churchill Prize Scholarship
2021	Churchill Computer Science Talks Series – Audience Favourite Talk
2020	Churchill Honorary Scholarship

## Publications

2022	<b>Secure Aggregation for Federated Learning in Flower</b> <a href="#">[pdf]</a> Kwing Hei Li, Pedro Porto Buarque de Gusmão, Daniel J. Beutel, Nicholas D. Lane <i>In DistributedML 2021: Proceedings of the 2nd ACM International Workshop on Distributed Machine Learning</i>
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## Unpublished Drafts

2022	<b>Formalizing May’s Theorem</b> <a href="#">[pdf]</a> Kwing Hei Li
2022	<b>Flower: A Friendly Federated Learning Research Framework</b> <a href="#">[pdf]</a> Daniel J. Beutel, Taner Topal, Akhil Mathur, Xinchu Qiu, Javier Fernandez-Marques, Yan Gao, Lorenzo Sani, Kwing Hei Li, Titouan Parcollet, Pedro Porto Buarque de Gusmão, Nicholas D. Lane

## Roles

2022 - Now	Safety and Welfare Officer Churchill College Boat Club
2021 - 2022	Computing Officer Churchill College JCR Committee
2020 - 2022	Coxing Captain Churchill College Boat Club

## Skills

**Coding:** Haskell, C++, Java, OCaml, Coq, Python, Eva

**Languages:** English (fluent), Cantonese (fluent), Mandarin (conversational)