

Curriculum Vitae

Li, Kwing Hei

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Basic Info

Preferred name: Heili

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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 - 2023 | M.Phil in Advanced Computer Science (Pass with Distinction)
King's College, University of Cambridge
Title: Wait-Free Task Solvability of Asynchronous Distributed Models [pdf] |
| 2019 - 2022 | B.A. Hons. in Computer Science with Mathematics (1st class)
Churchill College, University of Cambridge
Title: Type Systems for Functional Reactive Programming [pdf] |

Experience

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| 2022 | Research Intern
Max Planck Institute for Software Systems
Supervisor: Prof. Derek Dreyer and Mr. Michael Sammler |
| 2021 | Undergraduate Research Intern
University of Cambridge Machine Learning Systems Lab
Supervisor: Prof. Nicholas Lane and Dr. Pedro Porto Buarque de Gusmao |
| 2020 | Automation Engineer Intern
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	Secure Aggregation for Federated Learning in Flower [pdf] 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Unpublished Drafts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	Formalizing May’s Theorem [pdf] Kwing Hei Li
2022	Flower: A Friendly Federated Learning Research Framework [pdf] 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 - 2023	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)