Weiming Che

Churchill College, Cambridge, CB3 0DS
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Education

PhD(ongoing) of Engineering, Churchill College — **University of Cambridge**
Control Theory — *2018 to 2022 (estimated)*

- Thesis title: 'Feedback control design for closed-loop oscillations via dominant system theory'
- Acceptance of CSC Cambridge Trust Scholarship

BA and MEng, Churchill College — **University of Cambridge**
Information Engineering — *2014 to 2018*

- Honors pass with distinction
- Information and Computer Engineering, Electrical and Information Sciences, Instrumentation and Control
- First honors class for all four years, Churchill College Scholar from 2015 to 2018
- Acceptance of Cambridge Trust Scholarship for Undergraduates

Cambridge-HKU Joint Admission Scheme — **University of Hong Kong**
Engineering — *2013 to 2014*

- A/A+ in all major courses; Cumulative GPA 3.75 out of 4.3 for all courses

Key Technical Skills

- **Control Theory**: classical and robust control, optimization-based and differential approaches to nonlinear control.
- **Optimization**: linear programming, convex optimization, operations research, dynamic programming.
- **Programming**: Python and MATLAB for numerical computation and general programming, high computer literacy.
- Others: signal processing, information theory, machine learning, circuit analysis and modeling risk.

Publications

Peer-reviewed Conference papers

- **Weiming Che**, Thomas Chaffey, and Fulvio Forni. Analog cross coupled controller for oscillations: Modeling and design via dominant system theory. In *2022 IEEE 61st Conference on Decision and Control (CDC)*, pages 7642–7647, 2022
- **Weiming Che** and Fulvio Forni. Shaping oscillations via mixed feedback. In *2021 60th IEEE Conference on Decision and Control (CDC)*, pages 4602–4608, 2021
- **Weiming Che** and Fulvio Forni. A tunable mixed feedback oscillator. In *2021 European Control Conference (ECC)*, pages 998–1004, 2021

Preprints

- **Weiming Che** and Fulvio Forni. Dominant mixed feedback design for stable oscillations. *arXiv preprint arXiv:2110.06900*, 2021. Under review, submitted to IEEE Transactions on Automatic Control

Work Experiences

Department of Engineering, University of Cambridge — **Cambridge**
Supervisor (part-time teaching assistant) — *2018 to 2022*

- Supervised undergraduate courses in information Engineering (signals and systems, control theory).

Nancal Technology — **Beijing**
Intern Student — *Summer 2017*

- Assisted in the consultancy for the smart manufacturing upgrading of clients and proposed customized MES design.

Department of Engineering, University of Cambridge — **Cambridge**
Undergraduate Research Opportunities Program (UROP) — *Summer 2016*

- Helped design new undergraduate laboratory activity based on 3D printer from the scratch.
- Built up a stepper motor test system individually.

Sensor Hub — **Cambridge**
Intern Student — *Summer 2016*

- Built an early stage near infrared chemical sensor prototype.
- Collected and processed data for sensor calibration.

Interests and Languages

Sport: Cycling, Badminton, Rowing
Languages: English-Full professional proficiency. Chinese-Native.