

WANG YANNAN, DUSTIN

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EDUCATION

Ph.D. in Information Engineering

Sept 2016 – June 2021

The Chinese University of Hong Kong

CGPA: 3.991/4.000

- **Research Topic:** Optimization of some Non-convex Functionals arising in Information Theory
 - **Main Research:** Forward and reverse-hypercontractive inequality for binary erasure channel; weighted-sum rate outer bound on computing the module-two sum of doubly symmetric binary sources; log-convexity of Fisher Information
 - **Expertise:** Extensive experience on a wide range of mathematical tools and numerical simulation techniques to determine extremizers of non-convex optimization problems closely related to probability
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B.Eng in Information Engineering

Sept 2012 – July 2016

The Chinese University of Hong Kong

CGPA: 3.678/4.000

- **Ho & Ho Foundation Admission Scholarship** (2012-2016): Full tuition and living expenses coverage for studying in CUHK; Awarded annually to three mainland students who are academically outstanding
 - **Dean's List** (2013-2016): Awarded to students who attain a year GPA of 3.50 or above
 - **Head's List (Merit)** (2014-2016): Awarded to students who attain a year GPA of 3.3 or above and also rank top 10% among all students in the same major/programme
 - **Best (Research) Project Award** (2015): One of the best participants in Summer Undergraduate Research Internship Programme awarded by Faculty of Engineering
 - Engineering Leadership, Innovation, Technology and Entrepreneurship (ELITE) stream
 - **First-class honour:** Major GPA=3.902/4.000
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PUBLICATIONS & CONFERENCES

Remark: Author names are in alphabetical order in the publications.

- Qinghua (Devon) Ding, Chin Wa (Ken) Lau, Chandra Nair and Yan Nan Wang, "Concavity of output relative entropy for channels with binary inputs", manuscript to the International Symposium on Information Theory (ISIT 2021), Melbourne, Victoria, Australia, June 2021.
 - Michel Ledoux, Chandra Nair and Yan Nan Wang, "Log-convexity of Fisher information along heat flow", manuscript to the International Symposium on Information Theory (ISIT 2021), Melbourne, Victoria, Australia, June 2021.
 - Max Costa, Chandra Nair, David Ng and Yan Nan Wang, "On the structure of certain non-convex functionals and the Gaussian Z-interference channel", presented at the International Symposium on Information Theory (ISIT 2020), Los Angeles, June 2020.
 - Chandra Nair, Yan Nan Wang, "On optimal weighted-sum rates for the modulo sum problem", presented at the International Symposium on Information Theory (ISIT 2020), Los Angeles, June 2020.
 - Chandra Nair, Yan Nan Wang, "Reverse hypercontractivity region for the binary erasure channel", presented at the International Symposium on Information Theory (ISIT 2017), Aachen, June 2017.
 - Chandra Nair, Yan Nan Wang, "Evaluating hypercontractivity parameters using Information Measures", presented at the International Symposium on Information Theory (ISIT 2016), Barcelona, June 2016.
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EXPERIENCE

Teaching Assistant

Sept 2016 – Dec 2020

Conducted tutorials on network protocols for undergraduates; Demonstrated complex mathematical concepts and engineering techniques to undergraduates

Part-time student helper

Dec 2014 – Apr 2015

Worked as a team leader with three junior undergraduates; Created and maintained a course website by Moodle; Prepared in-class exercises, online exercises and teaching notes to assist professor in teaching

LANGUAGE

English (Fluent) | Cantonese (Fluent) | Mandarin (Native)