

# Ying Lin

[linyopt.github.io](https://github.com/linyopt)

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## RESEARCH INTEREST

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► **Machine learning and data science**

Theories, algorithms and applications, especially *sparse learning*, *support vector machine*, *kernel-based learning* and *neural networks*, etc.

► **Continuous Optimization**

Convex and nonconvex optimization: theories, algorithms and applications. Special topics about *error bounds*.

## EDUCATION

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2021.09 - 2024.09 Ph.D., Applied Mathematics, The Hong Kong Polytechnic University, Hong Kong, China.

**Supervisor:** Prof. Ting Kei Pong

2018.09 - 2021.06 M.Phil., Computational Mathematics, South China Normal University, Guangzhou, China.

**Supervisor:** Prof. Dr. Qi Ye

2014.09 - 2018.06 BA, Information and Computing Science, South China Normal University, Guangzhou, China.

**Advisor:** Prof. Dr. Qi Ye

## PUBLICATIONS

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1. **Ying Lin**, Benjamin Poignard, Ting Kei Pong, Akiko Takeda. *Break recovery in graphical networks with D-trace loss*. Submitted October 2024. [Code]
2. **Ying Lin**, Scott B. Lindstrom, Bruno F. Lourenço, Ting Kei Pong. *Tight error bounds for log-determinant cones without constraint qualifications*. Submitted March 2024.
3. **Ying Lin**, Scott B. Lindstrom, Bruno F. Lourenço, Ting Kei Pong. *Generalized power cones: optimal error bounds and automorphisms*. SIAM Journal on Optimization, 2024, 34(2):1316-1340.
4. **Ying Lin**, Yimin Wei, Qi Ye\*. *A Homotopy method for multikernel-based approximation*. Journal of Nonlinear and Variational Analysis, 2022, 6(2):139-154.
5. **Ying Lin**, Qi Ye\*. *Support vector machine classifiers by non-Euclidean margins*. Mathematical Foundations of Computing, 2020, 3(4):2-5.
6. **Ying Lin**, Rongrong Lin\*, Qi Ye. *Sparse regularized learning in the reproducing kernel Banach spaces with the  $\ell^1$  norm*. Mathematical Foundations of Computing, 2020, 3(3):205-218.

7. Qi Ye\*, **Ying Lin**. [Application of machine learning methods based on LAZE priors in cancer data](#).  
Journal of South China Normal University (Natural Science Edition), 2018, 50(04):115-120.  
In Chinese, part of Bachelor's thesis.

## TALKS

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- 2023.06 *Error bounds for the generalized power cone and applications in algebraic structure*  
SIAM Conference of Optimization (OP23), Seattle, Washington, U.S.
- 2022.12 *Error bounds for the generalized power cone and applications in algebraic structure*  
CAS AMSS-PolyU SIAM Student Chapter Workshop, online
- 2020.11 *Non-Euclidean support vector classifiers for sparse learning*  
CSIAM Students Forum 2020, online
- 2020.10 *Non-Euclidean support vector classifiers for sparse learning*  
CSIAM 2020, Changsha, Hunan Province, China
- 2019.10 *Support vector machine classifiers by maximum margin of arbitrary norm*  
2019 Optimization Frontier Progress Seminar, China West Normal University, Nanchong, Sichuan Province, China
- 2018.10 *The sparse regression model based on LAZE prior – The application in prostate cancer detection*  
Information Science Young Scientist Forum, Jinan University, Guangzhou, Guangdong Province, China
- 2018.07 *The sparse regression model based on LAZE prior – The application in prostate cancer detection*  
ICSA 2018, Qingdao, Shandong Province, China

## TEACHING EXPERIENCES

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- 2021.09 – 2024.09 Teaching Assistant, Department of Applied Mathematics, The Hong Kong Polytechnic University

## AWARDS

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- ◇ Second Prize of Excellent Graduate Students Papers Award by Guangdong Province Mathematical Society, 2020
- ◇ First-class Scholarship of South China Normal University, 2018
- ◇ “Honorable Graduate Scholarship” (Top 1) of South China Normal University, 2018

## VISITING EXPERIENCES

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- 2024.01 – 2024.05 Department of Applied Mathematics, The University of British Columbia  
**Host:** [Professor Michael P. Friedlander](#)
- 2023.03 The Institute of Statistical Mathematics  
**Host:** [Professor Bruno F. Lourenço](#)