# HAO GENG

Ph.D. Student ⋄ Department of Computer Science & Engineering
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## RESEARCH INTERESTS

- Machine Learning, Deep Learning and the First-order Optimization methods with applications in Design for Manufacturability

## RESEARCH TOPICS

- SRAF Insertion
  - Proposed a supervised online dictionary learning algorithm to enhance conventional manual feature construction and construct an integer linear programming model in post-processing.

## EDUCATION

**The Chinese University of Hong Kong, NT, Hong Kong** Aug. 2017 – Present
Ph.D. student, Department of Computer Science & Engineering.
Advisor: Prof. Bei Yu

**The Imperial College London, London, GB** Oct. 2015 – Nov. 2016
M.S., Computing (Machine Learning).
Masters Thesis: "A New Dictionary Learning Algorithm to Process Massive Remote Sensing Images"

## SELECTED AWARDS AND HONORS

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|---|---|---|
| Full Postgraduate Studentship | CUHK | 2017 |

## PUBLICATIONS

### Conference Papers

[C3] **Hao Geng**, Haoyu Yang, Yuzhe Ma, Joydeep Mitra, Bei Yu, "SRAF Insertion via Supervised Dictionary Learning", IEEE/ACM Asian and South Pacific Design Automation Conference (**ASPDAC**), Tokyo, Jan. 21-24, 2019. **(Best Paper Award Nomination)**

[C2] **Hao Geng**, Haoyu Yang, Bei Yu, Xingquan Li, Xuan Zeng, "Sparse VLSI Layout Feature Extraction: A Dictionary Learning Approach", IEEE Computer Society Annual Symposium on VLSI (**ISVLSI**), Hong Kong, July 9-11, 2018. (**Invited Paper**)

[C1] **Hao Geng**, Lizhe Wang, Peng Liu, Lajiao Chen, "Compressed Sensing Based Remote Sensing Image Reconstruction Using an Auxiliary Image as Priors", IEEE/ACM Geoscience and Remote Sensing Symposium (**IGARSS**), Quebec, IEEE, July, 2014.

### Journal Papers

[J1] Lizhe Wang, **Hao Geng**, Peng Liu, Ke Lu, Joanna Kolodziej, Rajiv Ranjan, Albert Zomaya, "Particle Swarm Optimization based Dictionary Learning for Remote Sensing Big Data", Knowledge-Based System, vol. 79, pp. 43-50, Elsevier, May, 2015.

## TECHNICAL SKILLS

**Languages** C/C++, Python, MATLAB, LaTeX