

# Tianren LIU

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## EDUCATION

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- JUL. 2016 ~ **Massachusetts Institute of Technology**, Cambridge  
*Current* Ph.D. in ELECTRICAL ENGINEERING & COMPUTER SCIENCE  
Advised by Prof. *Vinod Vaikuntanathan*
- SEP. 2014 ~ **Massachusetts Institute of Technology**, Cambridge  
JUN. 2016 M.Sc. in ELECTRICAL ENGINEERING & COMPUTER SCIENCE  
Thesis: On Basing Private Information Retrieval on NP-Hardness  
Advised by Prof. *Vinod Vaikuntanathan*
- SEP. 2010 ~ **Tsinghua University**, Beijing  
JUN. 2014 B.Eng. in COMPUTER SCIENCE AND TECHNOLOGY, GPA: 92.1/100  
Thesis: Indifferentiability of Confusion-Diffusion Networks  
Advised by Prof. *John P. Steinberger*

## ACADEMIC EXPERIENCE

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- DEC. 2017 ~ **Technion**, Haifa  
JAN. 2018 Research visit, hosted by *Yuval Ishai*
- JUN. 2017 ~ **École Normale Supérieure**, Paris  
JUL. 2017 Research visit, hosted by *Hoeteck Wee*
- MAY. 2015 ~ **University of California, Berkeley**, Berkeley  
AUG. 2015 Summer program “Cryptography” in Simons Institute
- JAN. 2013 ~ **Massachusetts Institute of Technology**, Cambridge  
MAY. 2013 Exchange semester in EECS department, GPA: 5.0/5.0
- MAR. 2012 ~ **Microsoft Research Asia**, Beijing  
SEP. 2012 Natural linguistic programming, Mentor: *Eric Chang*

## PUBLICATIONS

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Author names in theoretical computer science are listed in alphabetical order.

- **On Basing Search SIVP on NP-Hardness.**  
Tianren Liu. The 16th Theory of Cryptography Conference (TCC 2018). **Best Student Paper.**
- **Breaking the Circuit-Size Barrier in Secret Sharing.**  
Tianren Liu, Vinod Vaikuntanathan. 50th Annual ACM Symposium on the Theory of Computing (STOC 2018).
- **Towards Breaking the Exponential Barrier for General Secret Sharing.**  
Tianren Liu, Vinod Vaikuntanathan, Hoeteck Wee. 37th Annual International Conference on the Theory and Applications of Cryptographic Techniques (EUROCRYPT 2018).

- **Conditional Disclosure of Secrets via Non-Linear Reconstruction.**  
Tianren Liu, Vinod Vaikuntanathan, Hoeteck Wee. 37th International Cryptology Conference (CRYPTO 2017).
- **Indifferentiability of Confusion-Diffusion Networks.**  
Yevgeniy Dodis, Tianren Liu, Martijn Stam, John P. Steinberger. 35th Annual International Conference on the Theory and Applications of Cryptographic Techniques (EUROCRYPT 2016).
- **On Basing Private Information Retrieval on NP-Hardness.**  
Tianren Liu, Vinod Vaikuntanathan. The 13th Theory of Cryptography Conference (TCC 2016-A).
- **An End-to-end System to Identify Temporal Relation in Discharge Summaries: 2012 i2b2 Challenge.**  
Yan Xu, Yining Wang, Tianren Liu, Junichi Tsujii, Eric I-Chao Chang. Journal of the American Medical Informatics Association (JAMIA), 2013.
- **Joint Segmentation and Named Entity Recognition using Dual Decomposition in Chinese Discharge Summaries.**  
Yan Xu, Yining Wang, Tianren Liu, Jiahua Liu, Yubo Fan, Yi Qian, Junichi Tsujii, Eric I Chang. Journal of the American Medical Informatics Association (JAMIA), 2013.

## MANUSCRIPTS

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- **Reusable Non-interactive Secure Computation.**  
Melissa Chase, Yevgeniy Dodis, Yuval Ishai, Daniel Kraschewski, Tianren Liu, Rafail Ostrovsky, Vinod Vaikuntanathan.

## TALKS

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- Secret Sharing and CDS.
  - China Theory Week, Tsinghua University, 2018 and
  - ITCS, Shanghai University of Finance and Economics, 2018 and
  - (scheduled) Tokyo Crypto Day, Tokyo, 2018.
- Breaking the Circuit-Size Barrier in Secret Sharing. STOC 2018.
- Towards Breaking the Exponential Barrier for General Secret Sharing.
  - NY Crypto Day, Columbia University, 2017 and
  - CIS seminar, MIT, 2017 and
  - EUROCRYPT 2018.
- Conditional Disclosure of Secrets via Non-Linear Reconstruction. CRYPTO 2017.
- Indifferentiability of Confusion-Diffusion Networks. EUROCRYPT 2016.
- On Basing Private Information Retrieval on NP-Hardness. TCC 2016-A.

## AWARDS AND HONORS

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JUL. 2013 Yao Award (Bronze Medal, Tsinghua University)  
 SEP. 2012 National Scholarship  
 JAN. 2010 Chinese Mathematical Olympiad (Gold Medal)