

# HAOWEN ZHANG

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## EDUCATION

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**Georgia Institute of Technology** 08/2017 - Present  
Ph.D. student in Computational Science and Engineering

**Shandong University** 09/2013 - 06/2017  
B.E., Hons, in Computer Science and Technology

## RESEARCH EXPERIENCE

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**Georgia Institute of Technology** Atlanta, GA  
*Graduate Research Assistant; Advisor: Dr. Srinivas Aluru* 08/2017 - Present

- Working on long/short read algorithm design and implementation.
- Using high-performance architectures to accelerate sequencing data analysis.

**Tsinghua University & National Institutes for Food and Drug Control** Beijing, China  
*Visiting Student; Advisor: Dr. Tao Jiang and Dr. Tai Guo* 01/2017 - 07/2017

- Worked on viral deep sequencing data analysis.
- Set up a pipeline to detect low-frequency variants using deep sequencing data of viruses.

**Shandong University** Jinan, China  
*Research Assistant; Advisor: Dr. Weiguo Liu* 08/2015 - 01/2017

- Proposed a new index data structure and two novel seeding algorithms for short read mapping.
- Accelerated edit distance computing on Intel Many Integrated Core Architecture (MIC).

**The University of Hong Kong** Hong Kong  
*Research Intern; Advisor: Dr. Siu-Ming Yiu* 08/2016

- 1/19 students accepted by HKU CS Research Internship Programme.
- Conducted a comprehensive evaluation of structural variation (SV) detection tools using simulated reads.
- Gave suggestions on developing a new SV calling algorithm.

## PREPRINTS

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1. **Haowen Zhang**, Chirag Jain, and Srinivas Aluru. A comprehensive evaluation of long read error correction methods. *bioRxiv*, 2019. (submitted)

## PUBLICATIONS

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1. Chirag Jain<sup>†</sup>, **Haowen Zhang**<sup>†</sup>, Yu Gao, and Srinivas Aluru. On the complexity of sequence to graph alignment. In *International Conference on Research in Computational Molecular Biology (RECOMB)*. Springer, 2019. (<sup>†</sup>contributed equally; accepted)
2. Chirag Jain, Sanchit Misra, **Haowen Zhang**, Alexander Dilthey, and Srinivas Aluru. Parallel sequence to graph alignment. In *Parallel and Distributed Processing Symposium (IPDPS), 2019 IEEE International*. IEEE, 2019. (accepted)

3. Yueyue Liu, Tai Guo, Qingchuan Yu, **Haowen Zhang**, Jialiang Du, Yunqi Zhang, Shengli Xia, Huan Yang, and Qihan Li. Association of human leukocyte antigen alleles and supertypes with immunogenicity of oral rotavirus vaccine given to infants in china. *Medicine*, 97(40):e12706, 2018
4. **Haowen Zhang**<sup>†</sup>, Yuandong Chan<sup>†</sup>, Kaichao Fan, Bertil Schmidt, and Weiguo Liu. Fast and efficient short read mapping based on a succinct hash index. *BMC bioinformatics*, 19(1):92, 2018. (<sup>†</sup>contributed equally)

## SELECTED HONORS AND AWARDS

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- Workshop on String Algorithms in Bioinformatics (StringBio) Travel Award *2018*
- Workshop on the Future of Algorithms in Biology (FAB) Travel Fellowship *2018*