

# Bowen WU

Website : [bowenforgit.github.io](https://bowenforgit.github.io)  
Github : [github.com/BowenforGit](https://github.com/BowenforGit)

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## EDUCATION

**ETH Zurich**, Switzerland  
*Master of Computer Science* GPA: 5.5/6.0  
*Major: Database Management System*  
*Minor: Programming Languages and Software Engineering*  
Sep 2020 – Aug 2022 (Expected)

**The Chinese University of Hong Kong (CUHK)**, Hong Kong  
*Bachelor of Science (BSc), Computer Science* major-GPA: 3.85/4.00  
First-Class Honour  
Sep 2016 – Jun 2020

**ETH Zurich**, Switzerland  
*Exchange Student* GPA: 5.15/6.00  
Feb 2019 – Aug 2019

## RESEARCH EXPERIENCE

**Distributed Graph Database** Sep 2019 - May 2020  
*Advisor: Prof. James Cheng, Dr. Hongzhi Chen* **CUHK**  
• Designed and implemented recursive traversal over large-scale property graphs for distributed OLAP graph database Grasper  
• Enhanced functionality of the adaptive radix tree to improve Grasper's indexes

**Technology/Tools:** *Graph database, Gremlin, C++, MPI, RDMA, ZeroMQ*

**Fairness in Machine Learning** June - Nov 2019  
*Advisor: Prof. Pulkit Grover* **Carnegie Mellon University**  
• Developed a novel information theoretic measurement for fairness  
• Incorporated information-theoretic fairness in machine learning models  
• Designed a real-world recommender system to solve filter bubbles

**Technology/Tools:** *Information theory, Recommender systems, Tensorflow*

**Large Scale Similarity Search** May - Dec 2018  
*Advisor: Prof. James Cheng, Dr. Xiao Yan* **CUHK**  
• Profiled state-of-the-art similarity search algorithms and identified respective defects  
• Accommodated the HNSW algorithm to the maximum inner product search problem

**Technology/Tools:** *Approximate nearest neighbors search*

## PUBLICATION

**Bowen WU\***, Chenyu Jiang\*, Sanghamitra Dutta, Pulkit Grover, “An Information-Theoretic Measure for Enabling Category Exemptions with an Application to Filter Bubbles”, BIAS@ECIR2021.

Hongzhi Chen, **Bowen WU**, Shiyuan Deng, et.al, “High Performance Distributed OLAP over Property Graphs with Grasper”, Sigmod 2020 demo track.

## PROJECTS

**Benchmarking Parallel Priority Queues**  
Developed with a team a micro-benchmark framework for parallel priority queues. Implemented a wide range of parallel priority queues from publication and conducted benchmark to study their strong and weak scaling behaviours.

**Code:** <https://gitlab.ethz.ch/dphpc-quality-queuers/parallel-queues>  
**Report:** <https://bowenforgit.github.io/assets/documents/PPQ.pdf>

<b>TECHNICAL SKILLS</b>	<b>Languages :</b> Python, C++, C, Java <b>Databases :</b> PostgreSQL, MongoDB, Gremlin <b>Tools :</b> AVX, CMake, OpenMP, MPI, RDMA, ZeroMQ	
<b>HONOR AWARDS</b>	<ul style="list-style-type: none"> <li>• <b>Arthur and Louise May Scholarship</b>  <i>Granted by: Arthur and Louise May Memorial Fund (50K HKD)</i> </li> <li>• <b>Charles K.Kao Summer Research Internship</b>  <i>Granted by: Faculty of Engineering, CUHK (46K HKD)</i> </li> <li>• <b>Dean's List</b>  <i>Granted by: Faculty of Engineering, CUHK</i> </li> <li>• <b>Computer Science Scholarship</b>  <i>Granted by : Department of Computer Science, CUHK (50K HKD)</i> </li> <li>• <b>Elite Stream Scholarship</b>  <i>Granted by: Faculty of Engineering, CUHK (Cumulative 44K HKD)</i> </li> <li>• <b>Soong Ching-ling Zhiyuan Scholarship</b>  <i>Granted by: Soong Ching-ling Foundation (223K HKD)</i> </li> </ul>	<b>March 2019</b>  <b>Dec 2018</b>  <b>Mar 2018 and Feb 2019</b>  <b>Apr 2018</b>  <b>Sep 2017-20</b>  <b>Sep 2016</b>
<b>CERTIFICATE</b>	<ul style="list-style-type: none"> <li>• <b>TOEFL Score: 108</b>  <i>Reading: 29, Listening: 27, Writing: 27, Speaking: 25</i> </li> <li>• <b>GRE Score: 327+4</b>  <i>Verbal: 157 (76%); Quantitative: 170 (96%); Writing: 4 (57%)</i> </li> </ul>	<b>Jan 6, 2019</b>  <b>Sep 20, 2019</b>