# Peiqing Chen (Wilhelm)

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## EDUCATION BACKGROUND

**PEKING UNIVERSITY**                                                                                2017.9-Present
*School of Electrical Engineering and Computer Science*                              *Beijing, China*
Expected Date of Graduate: 2021.7, Overall GPA **3.67**/4.00 (Top15%), TOEFL 117
**University of British Columbia**                                          2019.9-2019.12 Vancouver, BC, Canada
*Exchange Program in School of Computer Science*

## PROJECTS AND RESEARCH

**Out of Many We are One: Measuring Item Batch with Clock-sketch**                    2020.2-Present
*Undergraduate Research at Peking University, First author, Advisor: Tong Yang(PKU)*          *Beijing, China*
- Generalize a data stream pattern Item Batch, which means a batch of items with same ID in a data stream.
- Measuring data stream by item batches is useful in cache prefetching, burst detection and APT analysis.
- Design Clock-sketch algorithm to measure activeness, cardinality, time span and size of item batches
- Paper in major revision at SIGMOD 2021

**Better telemetry for network What-if analysis**                                        2020.7-Present
*Research intern at Uchicago, Advisor: Prof. Junchen Jiang, Dr. Zaoxing Liu(CMU)*          *Remote due to covid*
- Study a wide range of network emulators and find that their prediction accuracy can be improved by a more accurate L-4 network telemetry system
- Deploy CM-sketch on programmable switches to measure network data stream.
- Propose a tighter error bound of CM-sketch using real-time traffic pattern and give a more accurate telemetry.
- Work still in progress

**Sliding Hardware Estimator: A Generic Framework for Measurements over Sliding Windows** 2019.5-2019.9
*Undergraduate Research, Co-first author, Advisor: Tong Yang(PKU)*                              *Beijing, China*
- Introduce a framework which can evolve several static window measurement algorithms into sliding window scenarios in network measurement. The algorithms include Bitmap, HyperLogLog, Bloom Filter, etc.
- Implement our sliding window algorithm on programmable switches to conduct real network measurement.

**Generic and Space-Efficient Network Measurements from the Perspective of Distributed Storage (CAHeap)**
*Undergraduate Research, Third Author, Advisor: Tong Yang(PKU)*              2020.1-2020.2 | *Beijing, China*
- Address the memory redundancy induced by duplicate records on switch nodes in network wide measurements.
- Introduce RS encoding to realize distributed storage of flow ID in separate switches in a data center.
- Implement CAHeap on programmable switches to conduct real network measurement.

## LEADERSHIP AND EXPERIENCE

**Deloitte Digital Difference Camp**                                                    2019.8 | *Beijing, China*
- Build a platform for commercial banks to judge the solvency of enterprises using JavaScript and php.
    - ◇ Obtain financial data of listed enterprises through web crawler and establish enterprise portrait database.
    - ◇ Make web page and background with script language and deploy them on the server.
- Ranked top 10 among 513 teams in the Global Final.

**Bytecamp at Bytedance**                                                                2020.9 | *Beijing, China*
- Build a video editing software for iOS:
    - ◇ Support video cutting, fragments recombination, filtering, sticker and caption adding.
    - ◇ Use AVFoundation and UIKit framework for video editing.
- Rewarded the second price among 50 teams

**Pkuranking.com**
*Web development project, Advisor: Kaigui Bian(PKU)*
- Give a ranking for all CS professors in PKU according to their publication rankings and citations, which aims to establish a platform for students to find their most matching undergraduate research advisor.
- Use php for website backend and React framework for website frontend.

## EXTRACURRICULAR ACTIVITY

**Students' International Communication Association**                          2018-2019 | *Beijing, San Francisco*
- Invite AIIB president Dr. Liqun Jin and host a talk on 'The wisdom of AIIB and its worldwide influence'. Selected distinguished student delegates from top universities in China and USA.
- Host an online meeting during the COVID-19 pandemic and organized discussion on topics 'Sino-US relationship in the background of de-globalization', 'Media and misinformation'.

## SKILLS AND HOBBY

- Languages          Mandarin (Native), English fluent (TOEFL 117; GRE 324+4)
- Computer          Microsoft Office, C/C++, Python, Origin, Julia, MATLAB, MySQL, php
- Hobby             Bartending, Western-style pastry, Fencing, Table Tennis (4 years)