

## Yuchong Pan

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| CONTACT<br>INFORMATION | +1 (604) 782-7439<br>panyuchong@gmail.com<br><a href="http://ypan.me">http://ypan.me</a>   |
| RESEARCH<br>INTERESTS  | Algorithms, combinatorics, optimization, theoretical computer science – especially combinatorial optimization, submodular optimization, network flow theory, network design, graph theory, theory of computation, theory of complexity.  |
| EDUCATION              | <b>University of British Columbia</b><br>B.Sc., Computer Science and Mathematics, Combined Honours, expected 2021 <ul style="list-style-type: none"><li>◦ Minor in Arts, Philosophy</li></ul>  |
| EMPLOYMENT             | <b>Microsoft Corporation</b><br>Software Engineer Intern, 2020<br>Software Engineer Intern, 2019<br>Software Engineer Intern, 2018<br><br><b>University of British Columbia</b><br>Undergraduate Teaching Assistant, 2020<br>Undergraduate Academic Assistant, 2019–2020<br>Undergraduate Teaching Assistant, 2019<br>Student Assistant, 2019<br>Undergraduate Teaching Assistant, 2018<br><br><b>Jisuanke</b><br>Teaching Researcher, 2018–2019<br>Lecturer, 2018–2019<br><br><b>Sogou, Inc.</b><br>Software Engineer Intern, 2017<br><br><b>InitialView</b><br>Software Engineer Intern, 2016–2017 |
| RESEARCH<br>EXPERIENCE | <b>University of British Columbia</b><br>The minimum-cost congestion of single-sink unsplittable flows (thesis), 2020–2021 <ul style="list-style-type: none"><li>◦ Advisor: F. Bruce Shepherd</li></ul> Gradual typing of recursive types, 2018–2020 <ul style="list-style-type: none"><li>◦ Advisor: Ronald Garcia</li></ul>  |
| TEACHING<br>EXPERIENCE | <b>University of British Columbia</b><br><i>Teaching Assistant</i><br>CPSC 311            Definition of Programming Languages, Fall 2020<br>CPSC 421/501      Introduction to Theory of Computing (graduate), Fall 2019<br>CPSC 121           Models of Computation, Fall 2018   |

*Academic Assistant*  
CPSC 411

Introduction to Compiler Construction, Fall 2019–Spring 2020  
*Involved in the redesign of the course, supervised by William J. Bowman.*

## **Jisuanke**

*Lecturer*

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| Competitive Programming, Level 6 | Spring 2019 |
| Competitive Programming, Level 5 | Fall 2018   |
| Competitive Programming, Level 3 | Summer 2018 |

*Teaching Researcher*

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| Competitive Programming, Level 6 | Spring 2019 |
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## **VOLUNTEER EXPERIENCE**

### **Shaoxing No.1 High School**

Summer Coach (Competitive Programming), 2016  
Student Lecturer (Competitive Programming), 2013–2015

## **TALKS AND PRESENTATIONS**

- The Single-Source Unsplittable Flow Problem. UBC Computer Science. University of British Columbia. Online. 2020. [Note] [Survey]
- Perturbation-Stable Maximum Cuts. Algorithms Reading Group, UBC Computer Science. University of British Columbia. Online. 2020. [Slides]
- Unsplittable Flow Problem on Paths and Trees: Closing the LP Relaxation Integrality Gap (with Adam Jozefiak). UBC CPSC 531F Survey. University of British Columbia. Vancouver, BC. 2019. [Slides] [Survey]
- Introduction to Communication Complexity. Quantum Club Seminar. University of California, Santa Barbara. Santa Barbara, CA. 2019.
- Gradual Typing for Octave Language (with Ada Li, Kathy Wang, and Paul Wang). UBC CPSC 311 Project. University of British Columbia. Vancouver, BC. 2018. [Report]
- Some Math Notes (in Chinese). Competitive Programming Summer School. Shaoxing No. 1 High School. Shaoxing, China. 2016. [Slides]
- Graph Algorithms (in Chinese). Competitive Programming Summer School. Shaoxing No. 1 High School. Shaoxing, China. 2016. [Slides]
- Miller-Rabin Primality Test and Pollard's  $\rho$  Integer Factorization Algorithm (in Chinese). Competitive Programming Seminar. Shaoxing No. 1 High School. Shaoxing, China. 2015. [Slides]

## **HONORS AND AWARDS**

- Faculty of Science International Student Scholarship (CAD \$7,500), University of British Columbia, 2020.
- J Fred Muir Memorial Scholarship in Science (CAD \$200), University of British Columbia, 2020.
- Trek Excellence Scholarship (CAD \$4,000), University of British Columbia, 2020.
- Science Scholar, University of British Columbia, 2020.
- Dean's Honour List, University of British Columbia, 2020.
- Faculty of Science International Student Scholarship (CAD \$5,000), University of British Columbia, 2019.
- Dean of Science Scholarship (CAD \$350), University of British Columbia, 2019.
- Trek Excellence Scholarship (CAD \$4,000), University of British Columbia, 2019.
- Stanley M Grant Scholarship in Mathematics (CAD \$1,500), University of British Columbia, 2019.
- Programming Language Implementation Summer School Fellowship (€400), 2019.
- Science Scholar, University of British Columbia, 2019.
- Dean's Honour List, University of British Columbia, 2019.

- Faculty of Science International Student Scholarship (CAD \$10,000), University of British Columbia, 2018.
- Dean of Science Scholarship (CAD \$425), University of British Columbia, 2018.
- Trek Excellence Scholarship (CAD \$4,000), University of British Columbia, 2018.
- Marie Kendall Memorial Scholarship in Science (CAD \$925), University of British Columbia, 2018.
- Joel Harold Marcoe Memorial Scholarship (CAD \$150), University of British Columbia, 2018.
- Science Scholar, University of British Columbia, 2018.
- Dean's Honour List, University of British Columbia, 2018.
- Outstanding International Student Award (CAD \$6,000), University of British Columbia, 2017.
- Silver Medal, China Team Selection Competition for International Olympiad in Informatics, China Computer Federation, 2015.
- Bronze Medal, Asia Pacific Informatics Olympiad, China Computer Federation, 2015.
- First Prize, National Olympiad in Informatics in Provinces (Advanced Division), China Computer Federation, 2014.
- First Prize, National Olympiad in Informatics in Provinces (Advanced Division), China Computer Federation, 2013.

PROFESSIONAL  
SERVICE

*Journal Review*

SIAM Journal on Discrete Mathematics (SIDMA)

SELECTED  
COURSEWORK

*Mathematics*

Probability (graduate)  
 Stochastic Processes (graduate)  
 Submodular Optimization (graduate)  
 Combinatorial Optimization (graduate)  
 Measure Theory and Integration (graduate)  
 Introduction to Theory of Computing (graduate)  
 Tools for Modern Algorithm Analysis (graduate)  
 Beyond Worst-Case Analysis (seminar)  
 Real Variables I & II  
 Numerical Linear Algebra  
 Introduction to Group Theory

*Computer Science and Engineering*

Introduction to Software Engineering  
 Definition of Programming Languages  
 Introduction to Compiler Construction  
 Computer Hardware and Operating Systems  
 Intermediate Algorithm Design and Analysis

*Philosophy*

Metaphysics  
 Philosophy of Law  
 Philosophy of Religion  
 Philosophy After 1800 (Russell & Wittgenstein)

ACADEMIC  
TRAINING

- Second Programming Language Implementation Summer School. Bertinoro, Italy. 2019.

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| RELEVANT SKILLS | Languages: English, Mandarin<br>Programming: <del>L</del> AT <sub>E</sub> X, Racket, Standard ML, JavaScript, C/C++, Java, C#, Python,<br>Ruby, MATLAB, Go, MySQL |
| LAST UPDATED    | December 1, 2020  |