

## Yuchong Pan

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CONTACT INFORMATION	+1 (604) 782-7439 panyuchong@gmail.com <a href="http://ypan.me">http://ypan.me</a>
RESEARCH 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> 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> Software Engineer Intern, 2020 Software Engineer Intern, 2019 Software Engineer Intern, 2018  <b>University of British Columbia</b> Undergraduate Teaching Assistant, 2020 Undergraduate Academic Assistant, 2019–2020 Undergraduate Teaching Assistant, 2019 Student Assistant, 2019 Undergraduate Teaching Assistant, 2018  <b>Jisuanke</b> Teaching Researcher, 2018–2019 Lecturer, 2018–2019  <b>Sogou, Inc.</b> Software Engineer Intern, 2017  <b>InitialView</b> Software Engineer Intern, 2016–2017
RESEARCH EXPERIENCE	<b>University of British Columbia</b> 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 EXPERIENCE	<b>University of British Columbia</b> <i>Teaching Assistant</i> CPSC 311            Definition of Programming Languages, Fall 2020 CPSC 421/501      Introduction to Theory of Computing (graduate), Fall 2019 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*

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

*Teaching Researcher*

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**

- 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  
 Introduction to Group Theory

*Computer Science and Engineering*

Numerical Computation  
 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.

RELEVANT SKILLS	Languages: English, Mandarin Programming: $\text{\LaTeX}$ , Racket, Standard ML, JavaScript, C/C++, Java, C#, Python, Ruby, MATLAB, Go, MySQL
LAST UPDATED	October 26, 2020