Yuchong Pan

Contact Information

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http://ypan.me

Research Interests

Combinatorics, algorithms, optimization, theoretical computer science, programming languages, and compilers – especially graph theory, combinatorial optimization, submodular optimization, theory of computation, theory of complexity, gradual typing, type systems, and functional programming.

Education

University of British Columbia

B.S., Computer Science and Mathematics, Combined Honours, expected 2021
- Minor in Arts, Philosophy

Employment

Microsoft Corporation

Software Engineer Intern, 2020
Software Engineer Intern, 2019
Software Engineer Intern, 2018

University of British Columbia

Undergraduate Academic Assistant, 2019–2020
Undergraduate Teaching Assistant, 2019
Student Assistant, 2019
Undergraduate Teaching Assistant, 2018

Jisuanke

Teaching Researcher, 2018–2019
Lecturer, 2018–2019

Sogou, Inc.

Software Engineer Intern, 2017

InitialView

Software Engineer Intern, 2016–2017

Research Experience

University of British Columbia

Single-source unsplittable flow problem, 2020–present
- Advisor: F. Bruce Shepherd

Gradual typing of recursive types, 2018–2020
- Advisor: Ronald Garcia

Teaching Experience

University of British Columbia

Teaching Assistant

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

Volunteer Experience

Shaoxing No.1 High School

Summer Coach (Competitive Programming), 2016

Student Lecturer (Competitive Programming), 2013–2015

Talks and Presentations

- TIL (Things I Learned): Performance Analysis of CoreCLR Interpreter. Intern Presentation, Microsoft. Online. 2020. To appear.
- 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] [Report]
- 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 ρ Integer Factorization Algorithm (in Chinese). Competitive Programming Seminar. Shaoxing No. 1 High School. Shaoxing, China. 2015. [Slides]

Honors and Awards

- 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

- Probability (graduate)
- Stochastic Processes (graduate)
- Submodular Optimization (graduate)
- Combinatorial Optimization (graduate)
- Tools for Modern Algorithm Analysis (graduate)
- Introduction to Theory of Computing (graduate)
- Beyond Worst-Case Analysis (seminar)
- Real Variables I & II
- Introduction to Software Engineering
- Definition of Programming Languages
- Introduction to Compiler Construction
- Intermediate Algorithm Design and Analysis
- Computer Hardware and Operating Systems
- 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: LaTeX, Racket, Standard ML, JavaScript, C/C++, Java, C#, Python, Ruby, MATLAB, Go, MySQL

Last Updated

July 30, 2020