

Yuchong Pan

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EDUCATION

- **Massachusetts Institute of Technology** Cambridge, MA
Ph.D., Applied Mathematics September 2021 –
- **University of British Columbia** Vancouver, BC
B.Sc., Combined Honours Computer Science and Mathematics September 2017 – May 2021

SELECTED EMPLOYMENT

- **Massachusetts Institute of Technology** Cambridge, MA
Mentor January 2022 – February 2022
 - **Directed Reading Program:** Mentoring two undergraduate students during the IAP period to read a selected book on a mathematical topic related to theoretical computer science or combinatorics. Meeting the students at least three times a week. Advising the students on the presentations in the DRP project symposium.
- **University of British Columbia** Vancouver, BC
Research Assistant April 2021 – August 2021
 - **Cost and Congestion of Exotic Network Flows:** Studied new network flow models with side constraints imposed by new telecommunication technologies (e.g., IP routing, optical networks, etc.). This research assistantship is partially funded by a Work Learn International Undergraduate Research Award.
- **Microsoft** Vancouver, BC
Software Engineer Intern May 2020 – August 2020
 - **.NET Runtime IL Interpreter:** Resurrected the IL (intermediate language) interpreter inside .NET Runtime. Conducted performance analyses for the various configurations of the IL interpreter. [GitHub] [Presentation]
- **Microsoft** Redmond, WA
Software Engineer Intern June 2019 – August 2019
 - **.NET Core Uninstall Tool:** A guided tool that enables the controlled clean-up of a system such that only the desired versions of .NET Core SDKs and Runtimes remain. [GitHub] [Blog] [Documentation]
 - **MSBuild Binary Log Query Language:** A domain-specific language extending XPath (XML Path Language) that provides multiple search operators for advanced queries on the target graph parsed from MSBuild binary logs.

SELECTED PROJECTS

- **THE Hack:** The largest hackathon in China with 500 participants, 2,000 applicants from over 400 schools and 8 countries; served as Co-Founder, Director of Technology, and Co-Director of Corporate Relations. [Website]
- **Gradual Octave:** Extended the Octave programming language with a gradual type system, incorporating benefits of both static and dynamic type systems. [Report] [GitHub]
- **MiniJava Compiler:** MiniJava is a subset of the Java language. Implemented a MiniJava-to-x64 compiler, including phases of frontend, intermediate representation, code generation, and optimization.

SELECTED AWARDS

- **Stanley M Grant Scholarship in Mathematics, University of British Columbia** 2019, 2021
- **Faculty of Science International Student Scholarship, University of British Columbia** 2018, 2019, 2020
- **Trek Excellence Scholarship, University of British Columbia** 2018, 2019, 2020
- **Science Scholar / Dean's Honour List, University of British Columbia** 2018, 2019, 2020
- **11th Place, ACM International Collegiate Programming Contest Pacific NW Region** 2017
- **Outstanding International Student Award, University of British Columbia** 2017
- **Silver Medal, China Team Selection Competition for International Olympiad in Informatics** 2015
- **Bronze Medal, Asia Pacific Informatics Olympiad** 2015
- **First Prize, National Olympiad in Informatics in Provinces** 2013, 2014

PROGRAMMING SKILLS

- **Languages:** C++, Python, Java, C#, Racket, Standard ML, Ruby, MATLAB, Go, JavaScript, MySQL, \LaTeX
- **Technologies:** Django, Flask, Tornado, Microservices, Bootstrap, Vue.js, AngularJS, D3.js, Node.js, Marko.js, Ionic, Nginx, Redis, Docker, Amazon AWS, Microsoft Azure, .NET, Xamarin, Microsoft Build Engine (MSBuild)