

# XICHEN PAN

647-994-4301 | [xichen.pan@gmail.com](mailto:xichen.pan@gmail.com) | [linkedin.com/in/xichen-pan](https://www.linkedin.com/in/xichen-pan) | [github.com/xichen1](https://github.com/xichen1)

## TECHNICAL SKILLS

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**Languages:** Java, Javascript, Typescript, C/C++, Python, HTML/CSS, JSP, SQL, Lisp  
**Frameworks:** React, Django, Node.js, Spring Boot, jQuery, Express, JUnit, Umijs, Pytorch, Numpy  
**Developer Tools:** Git, SVN, Bash, Docker, GitHub Action, MongoDB, Android Studio, VS Code, PyCharm, IntelliJ

## EDUCATION

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**University of British Columbia** Vancouver, Canada  
*Master of Engineering in Electrical and Computer* Expected May 2025

**University of Alberta** Edmonton, Canada  
*First-Class Honors Bachelor of Science in Computing Science* September 2018 – May 2023

## EXPERIENCE

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**Software Engineer Intern** June 2022 – November 2022  
*Hyperledger, The Linux Foundation* Remote

- Implemented a full-stack system for managing and operating Hyperledger Fabric **blockchain**
- Built backend APIs for blockchain lifecycle operations using **Python, Django** and **PostgreSQL**
- Streamed network operations and enhanced system efficiency using **JavaScript, React** and **Ant Design**

**Research Assistant** May 2022 – August 2022  
*University of Alberta* Edmonton, Canada

- Designed and developed a visualization tool to simulate mathematical illumination problems using **Java**
- Engineered a trigonometric graphing calculator that supports unlimited decimal precision using **Python**
- Accelerated calculator processing speeds, outperforming existing calculators by 20 times using **Python**

**Software Engineer Co-op** September 2021 – April 2022  
*Willowglen Systems* Edmonton, Canada

- Managed the SCADACOM system, a distributed **C++** framework for overseeing subway operations
- Boosted distributed system concurrency, enhancing data processing capability and fortifying fault tolerance
- Expedited the in-memory database's commit performance, achieving a tenfold increase in speed through optimizing the transaction process utilizing **C++**

**Research Assistant** May 2021 – September 2021  
*SMR Lab, University of Alberta* Edmonton, Canada

- Performed research on **Java Unit Test** migration, supervised by Dr. Sarah Nadi and Dr. Ajay Kumar Jha
- Implemented automatic **test coverage** analysis in a migration tool, optimizing the benchmarking process
- Gathered datasets from 50 Java projects to conduct test migrations, verifying the tool's broad compatibility

**Software Engineer Co-op** January 2021 – April 2021  
*Intricate Group* Edmonton, Canada

- Developed oil field reporting forms on the website to optimize user experience using **jQuery** and **JavaScript**
- Crafted SQL statements for **PostgreSQL**, ensuring robust database transactions and data management
- Managed the web identity and access system for 35 distinct roles using **Java** and **Spring Boot** framework

**Open Source Developer** January 2021 – April 2021  
*Eclipse Adoptium* Remote

- Established **GitHub Actions** for file-specific testing on code changes, reducing instant testing time by 60%
- Integrated the Jcov tool for AdoptOpenJDK to enhance testing coverage diversity and project robustness

## PROJECTS

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**Stochastic Bayesian Refinement Neural Network** December 2022 – April 2023

- Co-authored a research paper on moving object detection in videos using **Machine Learning** techniques
- Engineered a Bayesian Refinement Neural Network, improving the precision of object segmentation by 20%

**i-Connect** September 2021 – December 2021

- Developed a social media app enabling content creation and engagement through like, follow, and share
- Created a P2P network with 3 groups ensuring data integrity and API compatibility using **React** and **Django**