

Zhekai Jiang

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Education	McGill University Bachelor of Software Engineering • Cumulative Grade Point Average: 4.00 / 4.00 • Course Highlights: Software Engineering and Computer Science: Introduction to Software Engineering, Model-Based Programming (Top Performer), Algorithms and Data Structures, Programming Languages and Paradigms, Applied Machine Learning (In Progress), Software Requirements Engineering (In Progress) Mathematics: Discrete Structures (100%), Probability and Statistics for Engineers Economics and Finance: Engineering Economy, McGill Personal Finance Essentials (Non-credit, Online) Languages and Communication: Communication in Engineering, Beginners' French (In Progress) Personal Interdisciplinary Interests: Physics of Music, Introduction to Psychology (Advanced Placement)	Sep 2019 – May 2023 (Expected) Montréal, Canada
Awards	Dean's Honour List for ranking in the top 10% of the Faculty of Engineering at McGill University Engineering Class of 1983 Scholarship for my high academic standing and overall contribution to university life at McGill University John V. Galley Scholarship for my distinguished academic standing at McGill University Rio Tinto–Richard Evans International Exchange Award for my academic achievements, as well as leadership values of personal responsibility, integrity, accountability, and mutual respect, at McGill University Award of Excellence for achieving distinction as a visiting student at the University of Hong Kong	
Skills	Languages: English (Fluent), French (Basic), Mandarin Chinese (Native) Programming and Scripting Languages: Java, C, JavaScript, C++, Python, OCaml, Bash Professional Software, Tools, and Frameworks: Integrated Development Environments and Editors: Eclipse, Android Studio, Visual Studio Code, Vim Version Control, Collaboration, and Continuous Integration: Git, GitHub, GitLab, Travis CI Numeric Computing: MATLAB, Scilab Frameworks: Gradle, Spring Boot, Vue.js, Node.js, Express.js, VIATRA, D3.js Database Systems: MongoDB, PostgreSQL Software Modelling: Umple, UML Lab, Yakindu, Eclipse Modelling Framework Miscellaneous: JUnit, Heroku, Docker, Cucumber Operating Systems: macOS, Windows, Unix, Linux Software Engineering Practice: Object-oriented development, Model-based engineering, Behaviour-driven development, Test-driven development, Agile project management	
Experience	Research Assistant Department of Electrical and Computer Engineering, McGill University • Supervised by Prof. Dániel Varró, studying about model-based software and systems engineering, including design space exploration, partial models, and languages for model specification and graph query. • Working on a project about visualizing partial models and model generation based on a specification language. Tomlinson Engagement Awardee for Mentoring (TEAM Mentor) Tomlinson Project in University-Level Science Education (T-Pulse), McGill University • Fall 2021 – MATH 133 Linear Algebra and Geometry: Write extra reading materials and guiding questions on real-world applications of linear algebra in different areas of mathematics, computer science, and software engineering. Facilitate and moderate relevant discussions on the course discussion board.	May 2021 – Present Montréal, Canada Sep 2020 – Apr 2021, Sep 2021 – Dec 2021 Montréal, Canada

- Winter 2021 – ECSE 321 Introduction to Software Engineering: Monitored the course discussion board and addressed students' questions related to the semester-long group project (an application for an imaginary auto repair shop, including a backend, a website, and an Android application) as well as general course materials.
- Fall 2020 – MATH 133 Linear Algebra and Geometry: Held weekly office hours at the virtual $\vec{F} \text{Re}(z)$ Ca (First Year Residence Cafeteria tutorial program) via Microsoft Teams.

Grader

Sep 2020 – Dec 2021

Department of Electrical and Computer Engineering, McGill University

Montréal, Canada

- Fall 2021 – ECSE 321 Introduction to Software Engineering: Grade group project deliverables and quizzes.

Projects

Pocket McGill (Major Group Project of CCOM 206 Communication in Engineering)

Mar 2021 – Apr 2021

- In a team of six, as an imaginary startup company, compiled a business proposal to McGill University in both a written document and a live presentation. It involves a new one-stop mobile application for McGill students to conveniently access all services needed for their academic lives.
- Served as a senior software engineer in the imaginary company. Addressed details on the implementation of the application, including the system architecture and project management plans.

Art Gallery System (Course Project of ECSE 321 Introduction to Software Engineering)

Sep 2020 – Nov 2020

Repository publicly available on GitHub: <https://github.com/McGill-ECSE321-Fall2020/project-group-09>

- In a team of five, developed a software system in four sprints, including the backend, a website, and an Android application, for an imaginary local art gallery which was being impacted by the COVID-19 pandemic and transforming their mode of business online.
- The project is primarily in Java, as well as HTML, CSS, and JavaScript for the web frontend, assisted by Git, GitHub, Gradle, Spring Boot, Vue.js, Travis CI, Heroku, JUnit, etc.
- Served as a primary designer of the domain model. Implemented part of the backend business service layer and RESTful APIs with respective unit and integration testing. Implemented part of the web and Android frontends. Contributed to configurations, deployments, and bug fixing throughout the development. Organized the backlog and documentation on GitHub.

The Best Hospital (Project for the International Mathematical Modeling Challenge (IMMC 2018) International Contest)

Mar 2018 – Apr 2018

Published in journal *Maths, Physics, and Chemistry for Middle School Students* (in Chinese only). Available on [China National Knowledge Infrastructure \(CNKI\)](#).

- In a team of four, developed a mathematical model that uses various factors to measure the quality of hospitals and determine the best hospital. Wrote a memo that a person without much mathematical expertise or computing ability can use to choose a hospital.
- Designated as Finalist. Invited for a live presentation and oral defence at the regional final of Greater China.
- Contributed to the overall design of the mathematical model. Developed all the computer programs in MATLAB and C++. Edited part of the solution paper for the contest and subsequent publication.

Education and Growth (Project for the International Mathematical Modeling Challenge (IMMC 2018) Regional Contest of Greater China)

Feb 2018

Published in journal *Mathematical Study and Research* (in Chinese only). Available on [China National Knowledge Infrastructure \(CNKI\)](#).

- In a team of four, developed an econometric model to predict China's economic growth in the next 20 years, evaluated the role of education in economic growth, and proposed suggestions on government policies.
- Designated as Meritorious winner.
- Contributed to the overall design of the mathematical model. Developed all the computer programs in MATLAB and C++. Edited part of the solution paper for the contest and subsequent publication.