

Ninghua (Ning) Zhang

Toronto ON • (647) 928-6118 • nzhang26@my.centennialcollege.ca

PROFILE

Software Engineering student with a robust background in software development, web development and database operation. Demonstrated excellence in academic performance and internship experiences. Detail-oriented with strong teamwork, communication, and problem-solving skills. Proven proficiency in time management and multitasking.

PROFESSIONAL HIGHLIGHTS

- Solid knowledge and practical experience in various programming languages, frameworks and the application of algorithms.
- Familiar with object-oriented programming, user-oriented design, agile development and the software development lifecycle.
- Hands-on experienced in statistical and analytical tasks including data extraction, aggregation, modeling, and processing.
- A self-motivated, energetic, flexible, and hard-working team player with a keen willingness to learn, adapt, and contribute.

TECHNICAL SKILLS

Programming Languages: C#, Java, PHP, Python, SQL, PL/SQL, JavaScript, Kotlin, HTML, CSS, Shell, Bash, R, Racket
Frameworks: Node.js, Express.js, Laravel, Blade, Livewire, Angular, jQuery, JSON, Bootstrap, DataTable, Numpy, Pandas
Databases & Tools: Oracle, MSSQL, MySQL, MongoDB, Git, GitHub, GitLab, Postman, MATLAB, LaTeX
Operating Systems: Windows, macOS, Unix, Linux/Ubuntu

EDUCATION BACKGROUND

Software Engineering Technology Co-op Advanced Diploma Jan. 2022 – Present
Centennial College, Toronto, ON

- **GPA:** 4.5/4.5 (A+)
- **Relevant Courses:** C# Programming, Java Programming, Web Development, Database Systems, Data Structures and Algorithms, Software Testing, Mobile Apps Development, Unix/Linux OS

Honours Bachelor of Science, Triple Major in Statistics, Mathematics and Physics Graduation: June 2021
University of Toronto, St. George Campus, Toronto, ON

- **Relevant Courses:** Methods of Data Analysis, Time Series Analysis, Computer Science, Mathematical Logic, Number Theory, Group Theory, Ordinary/Partial Differential Equations, Discrete Mathematics, Linear Algebra, Data Structure
- **Leadership Experience:** President at the St. Michael College Chinese Association (University of Toronto)

EMPLOYMENT EXPERIENCE

Full-Stack Web Developer Co-op, Unity Health Toronto (St. Michael's Hospital), Toronto, ON Jan. 2023 – May 2023

- Applied **Laravel**, **PHP**, **JavaScript**, **MSSQL** and **GitLab** in the development of a web application serving the entire hospital.
- Utilized frameworks such as **Livewire**, **Blade**, **Bootstrap**, and **DataTable** to meet requirements and enhance user experience.
- Collaborated effectively with the team, demonstrating adaptability and initiative in managing tasks under tight timelines.
- Maintained open and active communication with team members, managers, and stakeholders to ensure project alignment.
- Quickly acquired new programming language and industry practices, reducing training time and delivering high-quality work.
- Proactively identified and resolved issues, proposed and implemented new algorithms to enhance core functions.
- Engaged in all aspects of development, including planning, front-end, back-end, database, testing, and feedback application.

Database Developer Intern, Hongxin New Material Technology Co., Ltd., Sanmenxia, China Jan. 2020 – Aug. 2020

- Conducted data cleaning with **Python**, imputing missing data and rearranging datasets to ensure high-quality data.
- Developed and established **SQL** databases, indexes, and complex queries for data analysis and extraction.
- Streamlined workflows by managing diverse tasks, including data quality control and addressing data incompleteness.
- Monitored and supported **Microsoft SQL Server** database environments to ensure optimal performance and data security.
- Performed quality checks on data exports and reports; maintained documentation for backups and recovery procedures.
- Collaborated with project managers and program developers to establish user access requirements and disaster recovery plans.

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EMPLOYMENT EXPERIENCE (cont'd)

CNC Machine Tool Programmer, Shanxi Wojite Machinery Equipment Co., Ltd., Taiyuan, China **July 2018 – June 2019**

- Developed machine programs using G-code, effectively translating blueprints and design data into operational instructions.
- Collaborated with designers to meet client requirements and worked with engineers to resolve program or process issues.
- Validated, tested, and implemented programs, controlling operation sequences to produce machined hardware.
- Optimized programs and processes, resulting in a **15%** reduction in machining time and a **3%** increase in product quality.
- Updated and converted existing programs for different systems/machines; maintained programs and documentation for reuse.
- Contributed to the creation of standard work instructions, streamlining the setup process for new and existing programs.

Data Engineer Intern, Huabiao Machinery Equipment Co., Ltd., Taiyuan, China **Jan. 2017 – Aug. 2017**

- Automated data input process using **VBA**, significantly improving data processing efficiency and eliminating human errors.
- Identified and resolved inefficient processing gaps, enhancing business processes by rectifying missing values, correcting invalid Excel functions, formatting data cells, and utilizing **pivot tables** for data visualization and dashboard creation.
- Identified data sources, provided data solutions, and performed data modeling to meet customer requirements.
- Delivered reports with insights and actionable recommendations based on analyzed results to support decision-making.
- Developed data analysis scripts in **R**, optimizing inventory allocation and resulting in a **5%** increase in overall sales.
- Demonstrated superior communication skills, effectively interpreting data analysis results for non-technical colleagues.

PROJECT EXPERIENCE

Human Resources System Application, **Java** Project, Toronto, ON **Oct. 2022 – Dec. 2022**

- Designed and built a human resource management application allowing comprehensive management of company structure.
- Used **FXML** for GUI, **Java** for front and back-end, **SQL** and **PL/SQL** (Stored Procedures, Functions, Triggers) for database.

Survey Website, Full Stack Web Application Project using the **MEAN Stack**, Toronto, ON **Sep. 2022 – Nov. 2022**

- Designed and constructed a web application for publishing surveys and collecting responses. Implemented user account management and survey management, with varying user permissions. Enabled data visualization and analysis of survey data.
- Utilized **HTML**, **CSS**, **Bootstrap**, **AngularJS**, **JavaScript**, and **TypeScript** for frontend development; **Node.js**, **Express.js**, and **MongoDB** for backend development. Hosted and deployed on **Heroku**, with version control managed through **Git**.

Study Room Booking Application, Software Design Project, Toronto, ON **May 2022 – Oct. 2022**

- Designed a mobile application for reserving study rooms in Centennial College libraries to complement the existing system.
- Employed a comprehensive software development design process, including interviewing stakeholders; defining product functionality and scope; creating Context Flow Diagram (CFD), Architectural Context Diagram (ACD), UML Domain Class Diagram, Design Classes Diagram, UML Systems/Full Sequence Diagrams, UML State Diagrams, and UML Deployment Diagram; analyzing use case models and entity-relationship (ER) models; designing UI and UX and creating a Gantt Chart.

Insurance Company Data Management System, Database Project using **SQL**, **PL/SQL**, Toronto, ON **Sep. 2021 – Nov. 2021**

- Designed and developed an **Oracle database** for insurance companies to manage customer data and insurance information.
- Applied Data Definition Language (DDL) to manage database objects; enhanced the data warehouse using Data Manipulation Language (DML); leveraged **SQL solutions** (Joins, Query, Subquery, Set Operations) and **PL/SQL** to address business issues.

Earnings Prediction, Data Science and Machine Learning Project using **Python**, Toronto, ON **Oct. 2020 – Dec. 2020**

- Implemented various machine learning techniques using **Python** to build a forecasting model to predict earnings growth.
- Conducted feature engineering by creating dummy variables, increased number of variables and enhanced model accuracy.