Ninghua (Michael) Zhang

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PROFILE

Experienced in programming-related work with a strong background in software development, database operation, and data processing. Excellent time management, multitasking and problem-solving. Good communication skills and detail-oriented.

PROFESSIONAL HIGHLIGHTS

- In-depth knowledge of **C#, Java, HTML, CSS, JavaScript, PL/SQL, Shell script, TypeScript**
- Solid knowledge and experience in designing **SQL queries** to perform relational database development and data extraction
- Practical **coding** and **troubleshooting** experience via **Python programming** (Numpy, Pandas) to perform predictive analysis
- Familiar with object-oriented programming, user-oriented design, algorithm concepts and software development lifecycle
- Good understanding of agile development and practical experience in program validation, testing, and implementation
- Hands-on analytical professional experience includes data extraction, data aggregation, data modeling and reporting etc.
- Self-starter, willingness to learn & quick learner; A self-motivated, energetic, flexible and hard-working team player

TECHNICAL SKILLS

Programming Languages: C#, Java, SQL, HTML, CSS, JavaScript, PL/SQL, Python, Shell, R, MATLAB, Racket
Frameworks: Node.js, Express.js, Angular, React.js, jQuery, JSON, Bootstrap, Numpy, Pandas
Databases & Tools: Oracle, MySQL, MongoDB, Git, LaTex, Bash, Heroku
Operating Systems: Windows, macOS, Unix/Linux, Ubuntu

EDUCATION BACKGROUND

Software Engineering Technology Co-op Advanced Diploma   **Jan. 2022 – Present**
Centennial College, Toronto, ON
- **GPA:** 4.47/4.5 (A+)
- **Interested Courses:** C# Programming, Web Development, Database Systems, Java Programming, Unix/Linux OS
- **Career Objectives:** Software Engineering, Web application development, Database Management, Software Test

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

Database Developer Intern, Hongxin New Material Technology Co., Ltd., Sanmenxia, China   **Jan. 2020 – Aug. 2020**
- Performed data cleaning using **Python** to impute missing data and rearrange datasets to ensure high-quality data
- Developed and established **SQL** databases, indexes, and complex queries for the purpose of data analysis and extraction
- Streamlined organizational workflow by managing multiple tasks, including data quality control and data incompleteness
- Monitored and supported Microsoft SQL Server database environments to ensure optimum performance and data security
- Performed quality checks on exports and reports; maintained documentation backups and recovery procedures
- Assisted project managers and program developers in establishing user access requirements and disaster recovery plans

CNC Machine Tool Programmer, Shanxi Wojite Machinery Equipment Co., Ltd., Taiyuan, China   **July 2018 – June 2019**
- Coordinated with designers to meet clients' requirements; worked with engineers to solve issues with programs or processes
- Developed machine programs using G-code and machining strategies to achieve product blueprints and design data
- Validated, tested and implemented programs to control the operation sequence and produce machined hardware
- Enhanced production efficiency and quality by optimizing programs and processes; Reduced machining time by **15%** and increased accuracy by **3%** for some products
- Updated and converted existing programs for different systems/machines; Maintained programs and documentation for reuse
- Contributed to the creation of standard work instructions for setting up new and existing programs

EMPLOYMENT EXPERIENCE (cont'd)

Data Engineer Intern, Shanxi Wojite Machinery Equipment Co., Ltd., Taiyuan, China   **Jan. 2017 – Aug. 2017**
- Automated the data input process using **VBA**, greatly improved data processing efficiency and eliminated human errors
- Discovered inefficient processing gap, resolved the issues and enhanced business processes by replacing missing values and correcting invalid Excel functions, formatting data cells and utilizing **visualization tool pivot table** to build dashboards
- Identified data sources, provided data solutions, and performed data modelling to meet customer requirements
- Delivered reports with insights and actionable recommendations based on analyzed results to supervisor in decision-making
- Developed data analysis scripts in **R** based on the order and inventory data, which helped allocate inventory to different sales channels and resulted in an **8%** increase in overall sales
- Demonstrated superior communication skills by interpreting data analysis results for non-technical colleagues

Data Entry, Huabiao Machinery Equipment Co., Ltd., Taiyuan, China   **Jan. 2016 – July 2016**
- Implemented CRM model to manage projects, explore and analyze client behaviors, and track sales performance
- Illustrated high-quality work and great attention to detail by achieving **100%** of accuracy in verifying client data
- Investigated, located and debugged the improper excel functions and macro issues to ensure the stabilization of data models
- Maintained data integrity, security and reliability; executed projects in a deadline-driven environment

PROJECT EXPERIENCE

Portfolio Website, Full stack web application project using the **MEAN stack**, Toronto, ON   **Sep. 2022 – Present**
- Constructed a web application for personal presentation that allows user authentication and enables visitors to create accounts, log in to accounts, modify account information, and send user messages
- Built frontend with **HTML**, **CSS**, **Bootstrap**, **AngularJS**, **JavaScript**, **TypeScript**, backend with **Node.js**, **Express.js**, **MongoDB**, hosted and deployed on **Heroku**, version control with **Git**

Study Room Booking App, Software design project using the complete design process, Toronto, ON   **May 2022 – Present**
- Designed a mobile application for reserving study rooms in the Centennial College libraries to complement the existing system (based on realistic needs)
- Implemented the thorough 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 drawing 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 data and information about customers, accounts, products, marketing and insurance claims
- Implemented Data Definition Language (DDL) to create and modify database objects; enhanced the data warehouse using Data Manipulation Language (DML)
- Utilized SQL to update data, leveraged **SQL solutions** (joins, subquery, set operations) and **PL/SQL** to solve 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** such as KNN, Gradient Boosting and Neural Network to build a forecasting model to predict earnings growth based on various attributes
- Conducted feature engineering by creating dummy variables, increased number of variables and enhanced model accuracy