

# Martin Xing

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## Skills

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**Languages:** C++, C, Python, Scheme, SQL, HTML5, CSS

**Tools:** PostgreSQL, RestAPI, Pandas, NumPy, matplotlib, SDL, Linux, Ubuntu, OpenGL, LaTeX, Unreal Engine 4

## Projects

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### Elo System Implementation

Feb 2021

*Python, SQL*

- Computed different categories of player statistics using **SQL** and stored them in a database
- Developed an elo system with **Data Analysis** such as K-Factor and normal distribution model
- Built a game score predictor with the Elo system, weighted linear model and **Python**

### Stock Trading Predictor

Mar 2021

*Python, RestAPI, Numpy, Pandas, matplotlib*

- Extracted the Stock Pricing data and formed a table using **Yahoo Finance API** and **Pandas**
- Computed the moving average curves and determined the buy and sell points using **NumPy**
- Displayed a visualization of the computed result using **matplotlib**

### Office Simulator

Apr 2021

*Unreal Engine*

- Simulated a 3D office building with foliage and surrounding background using **Unreal Engine 4**
- Developed the reflection onto the computer using screen space reflections and capture probes
- Designed many interactive activities and animated human actors in the scene for user experience

### Solar System Demo

Mar 2021

*C++, OpenGL*

- Simulated an educational Solar system in 3D using **C++** and **OpenGL**
- Rendered and placed all 3D planets using **Matrix Transformations**
- Developed the demo with the use of **GLFW**, **GLM**, and a shader program from scratch

## Experience

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### TedxSJAMWaterloo

April 2019 – June 2019

*Web Developer / Co-Organizer*

- Organized a local TEDx event to enlighten over 100 young students about technological innovation and entrepreneurship
- Managed event budget of \$1000 in total and other consumables for the event using advanced MS Excel features
- Developed the website's frontend for the event with HTML, CSS and Bootstrap4

## Awards

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### School Champion

April 2019

- Achieved the highest score on the Fermat Contest and was ranked on the national honour roll (top 2%)

### Certificate of Distinction

February 2020

- Ranked in the top 25 % of 3000 contestants in the 2020 Canadian Computing Competition

## Education

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### University of Waterloo

September 2020 – Present

- Candidate of Bachelor of Computer Science, CGPA: 93%