

# Daniel Guo

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## EDUCATION

<b>University Of Waterloo</b>   <i>GPA:3.7/4.0</i>	Waterloo, ON
<i>Bachelors of Mathematics and Financial Analysis and Risk Management, Presidential Scholar's Award (Entry Scholarship)</i>	<i>Expected 2030</i>
<b>Earl Marriott / White Rock Christian</b>   <i>Final Grade: 97%</i>	White Rock, BC
<i>IB Candidate, District Board School Representative (out of 2), Student Council Treasurer, Canadian Senior-Intermediate Math Contest School Champion</i>	<i>Sept 2020-May 2025</i>

## SKILLS AND INTERESTS

**Programming Languages:** SQL, Java, Python, C/C++, C#, JS, Bash  
**Libraries & Frameworks:** Pandas, NumPy, Matplotlib, TensorFlow/Keras, Vite/React, MongoDB, Django  
**Misc. Tools:** Excel, Git, Docker, VS Code, Quickbooks, Unreal Engine, Unity, Soldering (hardware)  
**Interests:** Coding, Cooking and Baking, Rock Climbing, Novels, Music, Movies

## PROJECTS

### Sketch Accuracy Feedback Algorithm | *Python, OpenCV, Matplotlib, Numpy*

- Designed image-comparison pipeline to identify and annotate deviations in hand-drawn sketches for art practice
- Accounts for scale and angle differences by aligning the images via template matching (using canny edge detection) then finds "matching" points via shear transforms guided by ORB matching

### Tensorflow Chess Bot | *Python, Tensorflow, Keras, Numpy, Pandas, PyChess*

- Trained on high elo games, predicts probability gradients for next possible moves via binary cross entropy error
- Encoded board via CNN with additional labels including attacks, king safety, and promotions, plays >800 elo

### Spotfixer Chrome Extension | *Javascript, Manifest V3*

- Chrome extension with 4.9 stars and over 200 downloads (gained entirely without marketing)
- Detects missing Spotify lyric states, and dynamically fetches and injects the lyrics entirely client side
- Implemented robust song-matching logic, handling variations in song titles and fall-back for sources

### Poetry Recommendation Algorithm | *Python, Numpy, Pandas, Faiss (Vector library), Hugging Face*

- Used Hugging Face Sentence Transformer Library to embed poetry dataset items into vector database
- Serves initials poems via random sampling across k-means clusters to determine initial interests
- Generates new poems by aggregating preference vectors then ranking candidates by cosine similarity

### VR Art App | *C#, Meta XR SDK, OpenXR, Unity, PlasticSCM*

- Developed with team for hackathon at Carnegie Mellon, won Honorable Mention (out of 300 Submissions)

### Kidney Disease Prediction Neural Network | *Excel*

- Manually initialized and trained a 3-layer dense neural network in Excel (for IB Math IA), at >70% accuracy (Used cross entropy loss) demonstrating a strong understanding of neural network fundamentals

## EXPERIENCE

### Accounting and Bookkeeping Intern

May 2025 – Aug 2025

*Langley, BC*

*Sharpcone Inc*

- Did data entry for AR sales and expense transactions using Quickbooks and Excel
- Tracked inventory costs to support cost-of-goods-sold documentation

### Controller Software Developer and Stat Team Leader

Sept. 2020 - May. 2022

*White Rock, BC*

*Chessmate Team 8082 - First Robotics*

- Developed robot control software in Java (WPILib), programming for Roborio motor controllers
- Managed statistics and strategy analysis to optimize team performance during competitions
- Contributed to team success, including 2nd place at Vancouver Regionals

### Frontend Developer

Jul. 2021 - Aug. 2022

*Remote*

*DataEra IT Association*

- Implemented clean layout for public-facing website for local non-profit tutoring organization
- Built the site using React and Docusaurus, coordinated with team via Git & Github