Martin Wu

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Education

University of British Columbia **Expected 2025 – 2029**
Bachelor of Applied Science in Engineering *Vancouver, BC*

Technical Skills

Languages: Python, JavaScript, C++, Java, HTML, CSS, TypeScript
Frameworks & Tools: React, Flask, NumPy, Git, GitHub Actions, REST APIs, PostgreSQL, Node.js, CI/CD
Libraries: MathJax, Styled Components, Axios, Pillow, Matplotlib, CustomTkinter

Experience

Embedded Systems **Sep 2025 – Present**
UBC Solar *Vancouver, BC*

- Engineered a new motor temperature sensing system using PT1000 RTDs
- Developed STM32 firmware in C utilizing HAL_SPI drivers for real-time data acquisition and processing
- Integrated sensor data over CAN bus to driver dashboard and telemetry modules for live diagnostics

Founding Software Engineer **Jun 2025 – Present**
Stealth Startup - Quantitative Portfolio Management *Vancouver, BC*

- Achieved 15% portfolio growth in Q2 and 241% growth over 7-year backtesting (Jan 2018-present)
- Developed algorithmic trading strategies in Pinescript v6 on TradingView with Python integration
- Implemented both long-trade (241% growth) and short-trade (179% growth) strategies

Robotics Team Programmer **Sep 2024 – Jun 2025**
Moscrop Robotics Team *Burnaby, BC*

- Architected modular C++ control algorithms optimizing autonomous routines, reducing cycle time by 18%
- Engineered real-time sensor-fusion pipelines enhancing obstacle detection robustness
- Refactored 1,200-line legacy codebase, cutting runtime errors by 25% and improving system stability

Advanced Mathematics Tutor Lead **Sep 2023 – Jun 2025**
Math Challengers Program *Burnaby, BC*

- Designed honours-level curriculum covering algebra, combinatorics, and geometry for 40+ gifted students
- Created diagnostic assessments and progress tracking, boosting average contest scores by 32%
- Coordinated lesson schedules and resources across three partner schools

Projects

Math Quiz Generator | *React, Python Flask, MathJax, GitHub Actions, REST API* **2024**

- Architected full-stack educational platform with intelligent difficulty algorithms across 10 progressive levels
- Engineered dual-deployment architecture supporting REST API client-server and standalone frontend operation
- Implemented real-time mathematical notation rendering using MathJax 3 with automated CI/CD pipeline

Advanced Haar Wavelet Image Compressor | *Python, NumPy, Pillow, CustomTkinter* **2024**

- Implemented custom Haar wavelet transform algorithms for real-time RGB image compression
- Built responsive desktop GUI with interactive parameter controls and immediate visual feedback
- Designed multi-channel processing pipeline with efficient memory management for large image arrays

Awards & Achievements

Mathematics Competition Awards **2023 – 2024**

- **Euclid Contest:** Top 2% with score of 85
- **AIME Qualifier (2x):** Top 5% on AMC 12 A & B with score of 118.5
- **Canadian Senior Mathematics Contest:** Top 0.5% (71st place) with score of 52/60
- **Canadian Open Mathematics Challenge:** Moscrop 3rd in BC
- **Hypatia Mathematics Contest:** Top 3% (182nd place), medal recipient