Tristan Guevarra

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Technical Skills

Languages: Python, Java, SQL, C, C++, JavaScript, TypeScript, HTML, CSS, PHP, Assembly, LaTeX

Technologies & Tools: React, Node.js, MySQL, Vite, Vue, Django, MongoDB, Express.js, Git/GitHub, XAMPP, Qt, Entra, Azure, PowerBI, JetBrain, VS Code, Eclipse, Android Studio, Figma, PowerShell, UNIX

Education

Queen's University, BASc in Computer Engineering — Expected: Apr. 2026

- **Coursework:** Object Oriented Prog., Data Structures, Algorithms, Database Management Systems, Data Science
- **Awards/Organizations:** Q3C, QWeb, Queen's Engineering Society, Excellence Scholarship Award

Experience

Software Developer Intern, Metergy Solutions — May. 2025 -

- Scheduled to complete a 12-week Software Developer internship at Metergy Solutions

Software Developer, ThisIsElectric — Mar. 2025 -

- Developing responsive website using **MongoDB, Express,js, React** and **Node.js**, enhancing online presence.
- Creating reusable React components, enhancing maintainability and reducing development overhead for future updates by 50%.
- Standardized front-end development with **Tailwind CSS**, resulting in a 40% reduction in code duplication and a more maintainable codebase that sped up feature implementation cycles.
- Integrating **Power BI** with **MongoDB**, creating analytics dashboards that visualize customer inquiries, service conversions, and response times, enabling data-driven decisions and optimizing operations by 30%.

Undergraduate Teaching Assistant, Smith Engineering — Sept. 2024 -

- Selected as 1 of 3 undergraduate TAs (7 total) to support 200+ students in **Object-Oriented Programming**.
- Facilitated labs on core OOP concepts, including inheritance and polymorphism, with 90%+ satisfaction rates.
- Guided 800+ engineering students in **Programming for Engineers I**, by teaching core **C programming** concepts such as control structures, iterative loops, debugging, and efficient coding practices.
- Led office hours and labs with a 95%+ success rate, ensuring timely completion and positive feedback.

Projects

Movement Categorization Desktop App | Python, Pandas, NumPy, MatplotLib, Scikit-Learn, PyCharm

- Developed a desktop app to classify accelerometer data as 'walking' or 'jumping' using Logistic Regression, processing input CSV files and outputting labeled results with high accuracy.
- Achieved 90% accuracy in classifying walking vs. jumping by extracting features with **Pandas** and **NumPy** and training a Logistic Regression model with **Scikit-Learn**.
- Cut preprocessing time by 25% by organizing accelerometer data into HDF5 format for efficient analysis.
- Improved model interpretability using **Matplotlib** to visualize feature relationships and classification performance metrics.

RoboDuck: PyCV Autonomous Lane Recognition | Python, YOLOv8, PyTorch, OpenCV, NumPy, MatplotLib

- Built and evaluated a self-driving vision system on the **PiCar-X** using **Python** and **Raspberry Pi** integrating **YOLOv8 (PyTorch)** for object detection and lane recognition obtaining 90% satisfaction rate.
- Used extensive libraries like **OpenCV** and **NumPy** for real-time video preprocessing, and **Matplotlib** for visualizing training metrics, detection results, and model performance over time.