

Tanya Aggarwal

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Education

B.Sc. in Computing Science with Minor in Mathematics
Trinity Western University, Langley, BC

Sept 2023 – Present

- Consistently named to the Dean's List with an overall GPA of 3.99 / 4.33
- Recipient of the President's Scholarship (\$6,000), awarded for three consecutive years

Skills

Data and Analytics: Python (Pandas, NumPy, Matplotlib, TensorFlow), SQL, Data Wrangling, Statistical Analysis, Model Evaluation

Data Platforms & Tools: MySQL, MongoDB, Firebase, Git, GitHub, Google Cloud Platform, AWS

Programming: Python, Julia, JavaScript, PHP, Java

Soft Skills: Communication, Team Collaboration, Analytical Thinking, Problem Solving, Time Management

Work Experience

Research Assistant (USRA) – Trinity Western University, Langley, BC

May 2025 – August 2025

- Analyzed and modeled large scientific datasets using statistical evaluation to answer research-driven questions and validate model performance.
- Developed and tuned Julia-based computational glacier models, improving numerical stability by 25% through data-informed parameter calibration.
- Applied data assimilation techniques to estimate latent variables from noisy observations, reducing model–observation error by 30%.

Junior Web Developer – Eazy Trade Hub, Punjab, India

January 2023 – June 2024

- Designed backend data pipelines using PHP, MySQL, and Python to support analytics-driven features for 1,000+ monthly active users.
- Integrated Google Cloud Video Intelligence API to categorize 500+ videos, improving content relevance by 35%.
- Automated recurring data workflows using cron and scripting, reducing manual effort

Student Ambassador – Trinity Western University, Langley, BC

Sept 2024 – Present

- Engaged with prospective students and families through campus tours, events, and outreach initiatives.
- Communicated academic programs, campus life, and admissions processes in a clear and approachable manner.
- Addressed inquiries and concerns to support informed decision-making and positive enrollment experiences.

Projects

Cipher BC — Regulatory Intelligence Portal (nwHacks 2026)

2026

- **Features:** BC-specific legal and regulatory Q&A, natural language queries, PDF upload with in-memory document reasoning, automatic document summarization, intent classification, interactive chat interface, zero data retention
- **Technology:** Python, Flask-CORS, LLM-based reasoning, PyPDF (in-memory extraction), Fetch API

Echo — AI Message Refiner (Personal Project)

2025

- **Features:** AI-powered message refinement, context-aware text enhancement, speech-to-text drafting, tone selection (polite, formal, casual), native Gmail and Outlook integration, inline refinement via browser extension
- **Technology:** Vanilla JavaScript (ES6+), Chrome Extension APIs, Python, Flask, server-side API key handling, Content Security Policy (CSP), AI text generation models

FoodLink Society — Community Food Distribution App (University project)

2025

- **Features:** role-based access (admin, volunteer, store owner), secure authentication, real-time food donation tracking, custom dashboards per role, delivery verification workflow, notifications for missing or unverified entries, CSV report export
- **Technology:** Flutter, Dart, Firebase Authentication, Cloud Firestore (real-time database), local notifications, REST-style data handling, mobile UI design

Campus Involvement

- Peer Tutor & Teaching Assistant (Mathematics & Computer Science)
- Events Coordinator – Nirvana Indian Club