

Gracian Anton

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[LinkedIn](#)

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EDUCATION: Carleton University – Bachelor of Computer Science Honours, Stream: Artificial Intelligence & Machine Learning, minor in Statistics & Economics (Sept 2025 - Present)

GPA: 3.9/4.0

Portfolio Website: <https://gracian.ca>

TECHNICAL SKILLS:

- **Backend:** Python, Java, PHP
- **Backend Framework:** Laravel
- **Data Science/ML:** SQL, NumPy, Pandas, Scikit-Learn, FastAPI, R (Statistical Computing)
- **AI:** OpenAI API, LangChain
- **Frontend:** HTML, CSS, Bootstrap, JavaScript, AJAX, React.js
- **Game Design:** Godot
- **Relational Databases:** MySQL, PostgreSQL
- **Methodologies:** Agile Development, Scrum
- **Editors:** VSCode, Jupyter Lab, IntelliJ IDEA, Micro
- **Operating Systems:** Windows, Linux (Ubuntu)

EXPERIENCE:

Linear Algebra Teaching Assistant (Sept 2026 – Present):

- Explained and solved **matrices, eigenvalues, and linear transformations** for large groups of students and provided one-on-one help for students.
- Related linear algebra topics to **machine learning concepts**.

Machine Learning Research Assistant (July 2026 - Present):

- Worked with TensorFlow MoDL algorithm to identify **bio-image segmentation** and **predict functionality (health indicators)**
- Conducted **feature selection** to avoid parameters that would **increase noise and multi-collinearity**
- Generated graphs to easily **visualize segmentation results** from different groups and compare them for group selection

Machine Learning Researcher & Lecturer (Dec 2025 – August 2026):

- Conducted **data analysis on large datasets** using Pandas and **Scikit-learn** to explore patterns in datasets and prepare them for models.
- Produced educational content notes explaining **machine learning pipelines, dataset preparation, and model development**.
- [Machine Learning Channel](#)

PROJECTS:

Machine Learning Driven Hydrological Monitoring and Forecast Engine (Dec 2025 – Aug 2026):

- Built and deployed a **FastAPI**-based API on **Render** to provide queryable endpoints for **model training, testing, and fine-tuning**
- Integrated **agentic AI chatbot** to support **passwordless user signup** via **customized tool calling**.
- Facilitated passwordless authentication using **hashed passwords, rate limiting, lockout durations, and verification expiration periods**.

- Used **React.js hooks and components** to fetch data from API endpoints and create dynamic maps, cards, and chatbots.
- Implemented a **Laravel MVC backend** with **authentication, routes, controllers, and views**.
- Created machine learning model via **regularly collected data** from open-source APIs using Pandas, Scikit-learn, and NumPy for **data analysis and visualization**.
- **Synchronized API-fetched JSON data** into a **relational MySQL database**.
- [Website](#) | [Github](#)

Machine Learning Paper - Large Factors Affecting Regional Home Prices (July 2026 – Aug 2026):

- Performed data cleaning through **logging, removing null values, and performing feature** .
- Generated **graphs and heatmaps** of attributes and target variables.
- Created a **multiple-regression model** and evaluated using **t-tests, multi-collinearity tests, and line assumptions** (Q-Q plots, scale-location, standardized residuals, etc.)
- Contributed to an **agile development team** through **sprint planning** and **iterative feature delivery**.
- [Website](#) | [Github](#)

Persistent Chatbot System (Sep 2025 – Dec 2025):

- Users complete a registration process that includes **sign-up, account verification, and re-login**. Session variables track authenticated users, allowing secure movement between pages after logging in.
- Implemented LangChain's **Memory Saver, State Graph, and Human/AI Prompting** to build a context aware conversational system using historical user messages
- Stored chats and messages in a **relational MySQL database**.
- Used JavaScript and AJAX to **display real-time messages and chats**, with a **responsive frontend** built using Bootstrap and custom CSS.
- [Website](#) | [Github](#)

Boat Escape (Feb 2026 – Apr 2026):

- Collaborated with an **Agile/Scrum team**, contributing to **sprint planning, stand-ups, and iterative feature delivery**.
- Developed core gameplay systems in Godot, including **AI enemy behavior, combat mechanics, spawning logic, and event-driven interactions** (collisions, pickups, XP).
- Designed and optimized game environments and UX, including a **tile-based** cave system and **dynamic UI** reflecting player progression.
- [Github](#)

Heritage Management System (Jan 2025 – Aug 2025):

- Created a secure admin/user interface for individuals to **add, edit, update, and delete family members** and their relationships.
- Developed a **LangChain-based** chatbot integrating structured MySQL data and **implementing text-to-query generation from user inputs**.
- Implemented a **dTree JavaScript** module coupled with a **recursive JSON function** to display persons in a seamless, navigable interface, with a **responsive frontend** built using Bootstrap and custom CSS.
- [Website](#) | [Github](#)

Custom CMS Website (Apr 2024 – Oct 2025):

- Built a **custom website manager (CMS)** enabling administrators to manage pages, videos, announcements, and site content.
- Implemented a **secure backend interface** for content editing, publishing, and contact form handling.
- Integrated the **TinyMCE rich-text editor** to allow non-technical users to create formatted content.

- Developed a custom template engine to **process reusable layouts, custom tags, and page structures.**
- Implemented **multi-language support**, integrated **Google Calendar**, and custom-built search engine.
- Created custom frontend sections of the website including **sliding images, content boxes, and video listings.**
- Designed a **responsive frontend** using Bootstrap and custom CSS.
- [Github](#)