

# DYLAN PATRASCU

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## EXPERIENCE

### Technical IT Assistant

May 2023 - August 2023 & May 2024 - August 2024

Ministry of the Solicitor General

Hamilton, ON

- **Automated network drive** mapping using **Python** to smooth the user experience, leading to a drastic decrease in user error
- Automated the **metadata lookup** for machine disposal through a Python script, further optimizing the inventory management workflow
- Debugged a regression in a legacy **VBScript program** to support new Windows 11 machines
- Provided in-court tech services in time-sensitive and high-pressure situations
- Communicated technical concepts to non-technical individuals, enabling clients to understand and utilize software solutions effectively

### Unity Tutor

March 2025 - April 2025

Self-Employed

London, ON

- Taught **Unity fundamentals**, including **scene setup**, **game object management**, and **scripting**
- Guided students through creating **interactive environments**, **UI menus and popups**, including a fully functional inventory system
- Implemented a secure **load/save functionality** using **custom-encoded binary files**

### Python Tutor

December 2024 - March 2025

Self-Employed

Remote

- Taught **Python** programming concepts to beginners with little to no experience, building their skills from the ground up while applying good programming principles
- Delivered personalized Python lessons, covering fundamental programming concepts such as **data structures and object-oriented programming**, as well as an introduction to **data science**
- Simplified complex computer science principles, including **recursion and algorithm efficiency**, to build a strong technical foundation for students

## PROJECTS

**VR Marine Biology Capstone** | Unity VR, C#, GitHub, Agile

September 2024 - April 2025

- Collaborated in a team of five to design and develop an **educational VR simulation game** to teach marine conservation and ocean research techniques
- Created engaging minigames for satellite tagging (**time-based challenge**), eDNA sampling (**interactive puzzle**), and BRUV deployment (**world interaction**) to simulate real-world marine biology research activities
- Implemented **accessibility features**, including captions for deaf users and colorblind-friendly environments
- Engaged in **ongoing communication with project supervisors** to ensure a realistic representation of marine biology research
- Applied **Agile development practices**, including creating **storyboards**, **user stories**, and **UML diagrams**, managing tasks via **GitHub Projects**, and using **GitHub** for version control and collaborative development
- Wrote a **Unity Shader** using **ShaderGraph** to simulate realistic seaweed swaying

**Shift Racer** | Unity 3D, C#, GitHub

December 2024

- Developed a **ready-to-ship** street racing game in **Unity C#**
- Designed a modular radio system using **Scriptable Objects**, where songs change depending on the car's gear
- Implemented an **AI waypoint tool**, allowing for modular car traffic at run-time using prefabs and a spawner
- Implemented a slow-motion effect where the player and surroundings are slowed at different time scales, including a trail effect
- Managed project development using **GitHub** and tracked development using **GitHub Projects (Jira equivalent)**

## TECHNICAL SKILLS & CERTIFICATIONS

**Programming Languages:** Java, Python, JavaScript, HTML/CSS, C/C++/C#, SQL/PHP, R, GDScript, Unreal Engine Blueprint.

**Developer Tools:** Git, JSON, JUnit, Jira, React, VS Code, PyCharm, Eclipse, MongoDB, Godot, Unity, Unreal Engine, Blender, Aseprite.

**Spoken Language:** Fluent English, Fluent French, Fluent Romanian, Conversational Japanese.

**Certifications:** IBM Z Xplore - Concepts, IBM Z Xplore - Advanced, Certificate of Studies in French Immersion (FSL).

## EDUCATION

University of Western Ontario

September 2021 - April 2025

Bachelor of Science in Computer Science (**Honours**)

London, ON

Minor in Game Development

- **3.9 GPA** - Dean's Honour List
- Dedicated member of the **Game Development Society (GDS)** & **Fashion & Lifestyle Society (F&LS)**

## SMALLER PROJECTS

### [Breaking Bob \(GDS x LOJAM 2025\)](#) | Unity2D, C#, GitHub

March 2025

- Won **Judge's Choice for Best in Game Mechanics/Fun** and **People's Choice**
- Developed a **2D top-down action game** in **Unity** in **6 days** in a **team of three**, where players must destroy enemies, cars, and buildings to clear the city before the timer runs out
- Developed an **interactive particle system** for props, **enhancing visual effects and immersion**
- Implemented a **dynamic NavMesh system for enemy AI**, enabling **real-time pathfinding updates** as buildings are destroyed.
- Used **GitHub** for version control

### [Micro Movers \(GDS Micro-Jam 2025\)](#) | Unity2D, C#, GitHub, Aseprite

January 2025

- Won **Judge's Choice for Best in Art** for visual design and presentation
- Developed a **2D puzzle game** in **Unity** in **48 hours** in a **team of two**, where players collect and shrink objects to fit them in a moving truck
- Implemented **player controller** and **player-environment interaction**, **level design**, and created all **art** and **user interface** using **Aseprite**
- Used **GitHub** for version control and tracked development using **GitHub Projects (Jira Equivalent)**

### [Cannonball Run](#) | Unity3D, C#, GitHub, Agile

January 2025 - April 2025

- Developed a **procedurally generated 3D racing rogue-like** in **Unity** in a **team of four**, featuring **dynamic track generation**
- Implemented a **tree structure for level progression**, allowing players to choose paths and encounter randomized upgrades
- Created a **progression system** including limited garage stops for repairs and upgrade opportunities
- Designed an **adaptive difficulty system** where enemy AI and traffic frequency scale with player progression
- Used **GitHub** for version control

### [Personal Website \(dylanpatrascu.com\)](#) | React, Vite, GitHub

February 2025 - Present

- Developed a personal website to showcase projects and experience
- Created a **dynamic UI** that adapts to all screen sizes
- Implemented **frontend with React and Vite** for a modern appearance
- Utilized **GitHub** for version control

### [MongoDB Deep-Dive](#) | MongoDB, React, CSS

December 2024

- Conducted an in-depth architectural analysis of **MongoDB**, including data flow, scalability mechanisms, and performance optimization for dynamic applications
- Developed and deployed a **movie database** case study utilizing MongoDB to demonstrate robust API integration, dynamic data handling, and real-time search functionality
- Explored and tested **MongoDB's** sharding, replication, and indexing features to optimize performance in high-concurrency environments

### [Language Localization Tool](#) | Unity Editor, C#

November 2024

- Developed a **dynamic localization tool** in **Unity C#** using **Scriptable Objects** with two serialized lists for managing keys and values, supporting scalable multilingual text management
- Changes made to keys are consistently reflected across all languages, maintaining **synchronization** and translation accuracy
- Implemented a **custom editor window** to efficiently add, edit, and maintain languages and key-value pairs

### [Mazerunner](#) | Unity3D, C#

October 2024

- Developed a **ready-to-ship** maze game in **Unity C#**
- Implemented an **animated third-person player controller** that orients movement based on the camera position
- Implemented a key **inventory system**, where the player collects keys to open doors in the maze
- Implemented a **grid-snapping tool**, allowing for easy creation of the environment

## NOTABLE ROLES

### [Spring Fashion Show Co-Director](#)

September 2023 - May 2024

*Fashion & Lifestyle Society (University of Western Ontario)*

London, ON

- Organized a high-fashion Fashion Show with **220+ attendees**
- Collaborated with designers to create 20+ handmade runway looks using **ethically sourced fabrics**
- Curated soundtrack and coordinated **live music** for the event
- Managed **venue booking, scheduling, sponsorship, budgeting, and advertising**
- **Led a team of 20** to execute the fashion show's theme and vision

### [Customer Service Representative](#)

September 2019 - August 2021

*Farm Boy Inc.*

Burlington, ON

- Professionally interacted with customers, providing assistance, clarifying inquiries, and resolving any issues promptly and satisfactorily
- Conducted regular temperature and inventory checks throughout each shift, ensuring compliance with safety standards and maintaining accurate stock levels