

Zed Ikejiani

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Portfolio - <https://mrrobotioi.github.io/home/> | GitHub - <https://github.com/MrRobotIOI> | LinkedIn - <https://www.linkedin.com/in/zed-ik/>

Experience

RBC Borealis (Royal Bank of Canada, Data & AI Division)

Sep 2024 – Apr 2025 (Expected)

Software Developer Co-op

- Collaborating with Principal Engineers and Leads at RBC Borealis to develop consumable and platform services for internal RBC applications, adhering to RBC's standards and practices
- Working on multiple data protection services to identify Personal Identifiable Information and encrypt it, preserving certain data formats to allow readability while ensuring anonymity.
- Assisting in getting services from the development environment to production using OpenShift, Helios (deployment pipeline) and GitHub Actions.

Education

York University

Sep 2021 – Jun 2026 (Expected)

Bachelor's Degree in Digital Media

Courses: Object Oriented Programming, Data Structures, Shell Scripting, Game/Web Development

Sheridan College

Jan 2020 – Jun 2021

Diploma in Computer Programming

Projects

Technical Lead, "Insomnia" - [Link to Project](#)

- Worked with a team to create a First-Person game with time abilities and presented it to industry professionals.
- Developed using Unity using C# and OOP concepts such as Polymorphism and Inheritance for obstacle variants.
- Oversaw project goals, directed mechanic implementations and tech art, ensured cohesive integration of gameplay features, mechanics, which overtime improved performance down to 6ms.

Newtonian Gravity - [Link to Project](#)

- Developed a robust Newtonian gravity system in Unreal Engine for realistic movement of entities under the influence of dynamic directional gravity.
- Modified Unreal Engine's destruction system to allow for dynamic directional gravity on destructible objects and created a custom movement system for player movement on spherical planets.

Butterfly Flocking Algorithm - [Link to Project](#)

- Implemented an algorithm to simulate butterfly flocking behaviour on GPU particles using compute shaders, adding a point of interest element to have butterflies move to a target in addition to their smooth flocking behaviour.
- Using vertex animation to animate the mesh particles, simulating 10,000 animated particles at a 5ms cost.

Procedural Snow and Webbing Generation Systems - [Link to Project](#)

- Developed a Procedural Snow System featuring a customizable accumulation system at both the material (shader-based) and mesh levels, leveraging layered noise and displacement textures for realistic variation.
- Implemented a real-time, persistent deformation system that captures player and object movement with scene capture and vertex shaders, enabling realistic interactions with snow and sand on landscapes and objects like snowy bushes.
- Created Procedural Webbing simulations with two implementations: a shader-based method using Worley/Voronoi noise for scalable web patterns and a dynamic mesh system generating 3D cables that anchor to environments, spreading in customizable distributions (cone/spherical).

Wind Simulation Shaders - [Link to Project](#)

- Developed wind simulation shaders for foliage and dynamic objects such as trees, bushes, and hanging elements like clothing lines.
- Designed adjustable wind behavior using noise-based turbulence, allowing for natural motion variations across different object types.
- Implemented multi-layered wind effects for realistic secondary motion, ensuring different parts of assets (e.g., tree trunks vs. leaves) respond uniquely to wind forces.

Technical Skills

- Languages: C++, C#, HLSL, Java, HTML, JavaScript, TypeScript, CSS, C, Bash, SQL, NoSQL
- Tools: Git, MongoDB, PostgreSQL, Unreal Engine 5, Unity, Postman, Springboot, JUnit, Kubernetes, Docker, Kafka, Linux, and Maya.