Amelia Mesdag

SENIOR SOFTWARE DEVELOPER

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Experience

Capgemini Canada - Experience Engineering
Halifax, NS

SENIOR SOFTWARE DEVELOPER — *May 2024 – July 2025*

- Provide professional services to external clients in the architecture, engineering, construction, and operation sectors (AECO) .
- Design and develop digital twins and real-time 3D simulations in Unity.
- Work closely in multidiscipline teams including designers, engineers, and technical artists to deliver the technical and aesthetic requirements on client projects.

Unity Technologies - Accelerate Solutions
Halifax, NS

SENIOR SOFTWARE DEVELOPER — *Nov 2022 – Apr 2024*

- Provided professional services to external clients in the AECO sectors.
- Designed and developed multiple client products in the Unity 3D realtime engine.
- Worked closely in multidiscipline teams including designers, engineers, and technical artists to deliver the technical and aesthetic requirements.

Unity Technologies

PROJECT X-RAY — *Aug 2023 – Apr 2024*

- An architectural and building information model tool built on Unity and Unity Cloud services.
- Designed for analysis of ongoing construction and maintenance projects by overlaying digital architectural models in the physical world for cross-reference.
- Built using Unity 2022 for Microsoft HoloLens and XR enabled tablets.

Government of Canada - Department of National Defense
Halifax, NS

LEAD DEVELOPER — *Jun 2021 – Nov 2022*

- Provided technical supervision on multiple contracted projects for NTDC(A) LSC.
- Lead development on the RCN Virtual Fleet training simulation product with a small team of developers and technical artists.

RCN VIRTUAL FLEET (DESKTOP & WEBGL) — *Jun 2020 – Nov 2022*

- Rebuilt the application from Unity 5.6 to Unity 2022.
- Upgraded the existing DND DLN 2.0 and SCORM capabilities to the DLN 3.0 network with SCORM and xAPI functionality.
- Integrated networking and interoperability capabilities with other simulations using the DIS 6.0 standard.
- Started development for the Artic and offshore patrol ship training platform.

Fleet Sim Training Solutions
Halifax, NS

SENIOR SOFTWARE DEVELOPER — *May 2020 – Jun 2021*

- Provided development supervision and support for the Department of National Defense.
- Started development on a Royal Canadian Navy Virtual Fleet training simulation product.

Copernicus Studios
Halifax, NS

SOFTWARE DEVELOPER — *Jan 2014 – Feb 2020*

- Developed multiple early childhood language learning apps in Unity for iOS, desktop, and WebGL.
- Key projects include:

TREEHOUSE VR (DESKTOP/STEAM VR) — *Jun 2019 – Oct 2019*

- A proof of concept VR experience designed to demonstrate the use of Copernicus' speech recognition technology on VR hardware.
- Integrated the updated speech recognition interface into the game.
- Developed using Unity 2018.

ALPHA'S PLAYROOM (IOS) — *Dec 2016 – Feb 2018*

- A collection of digital mini-games in which a child interacts with AlphaBot characters by using their voice.
- Implemented the client-server functionality and provided support for gameplay and user interface tasks.
- Developed using Unity 5.

Dalhousie University
Halifax, NS

SOFTWARE DEVELOPER - RESEARCH SUPPORT STAFF — *Jan 2017 – Jan 2020*

- Developed a C++ server application to process voice data from user devices, returning text transcriptions and keyword recognition to client apps.
- Developed a gRPC protocol to connect the server application and Unity applications.
- Developed a Unity library to collect voice data and manage server communication.

Frontier Developments Inc. *Halifax, NS*
Software Developer *Aug 2012 – Jan 2014*

Kinectimals Unleashed (iOS, Android, Win 8)
- Responsible for game play programming, UI programming, animation and artist support, and asset management.
- Ported and optimized the game to run on Android, iOS, Windows 8 ARM devices.
- Developed using Unity 4.6.

HB Studios *Halifax, NS*
Software Engineer *Nov 2010 – Jul 2012*

Madden 2013 (Xbox 360 & PS3) *Aug 2011 – Jul 2012*
- Implemented UI for the Draft Duels mode in Ultimate Team.
- Developed using a custom C++ engine from EA Games.

FIFA 2012 (Wii) *Nov 2010 – Jul 2011*
- Worked on the revamped Manager Mode and FIFA City Mode.
- Responsible for UI programming, audio.
- Provided support for AI tasks.
- Developed using a custom C++ engine from EA Games.

Education

Software and Computing Stream *Carleton University*
B.S. Computer Science *Ottawa, ON*
2004 - 2010
- Extracurricular Activities: Carleton Computer Science Society

Languages & Skills

Game Engines	Unity
Platforms	Windows, MacOS, iOS, Android, HoloLens (UWP), Apple Vision Pro (xrOS)
Languages	C#, C++, Javascript, DirectX, OpenGL, GLSL/HLSL, WebGL 2.0
Frameworks	Node.js
Databases	MySQL, PostgreSQL
Tools	Docker