

ALEXANDER JURCAU

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Note: Most main project titles below, and the usernames above, are hyperlinks leading to videos or photos.

EMPLOYMENT

Ubisoft

June 2018 - Current

Generalist Programmer Intern (Watch Dogs Legion) · Toronto

- Lead development of a company-wide service-consolidating production tool in Python / C# to add context to created tasks in meetings and director reviews - automated video and audio capture / upload (FFMPEG), JIRA creation, game plugins, etc, **saving ~8 hours** per task
- Oversaw technical side of an automated integration testing framework supporting **hundreds of internal clients and testers**
- Developed in-house online service consolidating webapp tool in **React**, rotating work between the client, backend, and webapp to handle the configuration of scheduled events, feature switches, localization, etc
- Resolved Sony **TRC** online-related issues, leading to experience with the PS4 development process
- Collaborated on the development of a robust **Python and Choco tool packaging pipeline** - helping support company transition to project-agnostic tools
- Drafted comprehensive **technical documents** including sequence diagrams, wireframes, and crafting paper prototypes for new tools and workflows
- Started and organized the **Ubisoft Toronto Japanese Learners club** - teaching up to N3 Japanese, creating weekly worksheets, and organizing weekly language exchanges

ARnocular

May 2017 - Current

Augmented Reality Software Developer · Toronto

- Implemented a system that **dynamically downloads AssetBundles and displays 3D models from a database**, requesting and parsing CSV files
- Developed an accurate **linear regress system** using GPS points to smoothly move between perceived user locations
- Collaborated smoothly with **Git** version control; experience with Prod/QA/Dev pipeline, branching, merging, stashing, working with a remote repo

Youth Fusion

Mar. 2017 - May 2018

Video Game Design Coordinator · Toronto

- Taught for a local non-profit after-school program aimed to decreasing high school drop-out rates by teaching all aspects of video game development
- Oversaw the development of 2 fully polished games, following a Prototyping/Alpha/Beta/Gold staging process
- Verbally **communicated** complex game design concepts to children in simple and easy-to-understand ways

Inmar

May 2016 - Aug. 2016

Systems Support · Toronto

- Developed **SSIS packages** for data transfer between SQL Server databases and uploads/downloads from/to Excel files
- Developed **T-SQL scripts** for comprehensive field level discrepancy reports
- Created **testing automation jobs** for data integrity and consistency, including test case creation, execution and results logging

PROJECTS

Holo-Mole - (Holography School Project + Unity Personal Project)

Mar. 2018 - Apr. 2018

- Innovative AR whack-a-mole game that uses Vuforia image and model targets recorded onto a **physical rainbow-transfer hologram**
- Showcased at the **International Symposium on Digital Holography 2018** as a new application of holographic technology

Google Spy - (UofTHacks 2018: Unity C# and Javascript Developer | Runner-Up for Best Game)

Jan. 2018

- Innovative **Google Home voice-controlled Unity game**, with the ability to control player movement and combat via voice commands
- Implemented **Javascript** solution to make Actions by Google query results available to Unity in **Firebase database**

TranslatAR - (MHacks 9: Unity C# Developer | Most Innovative Hack Award)

Mar. 2017 - Dec. 2017

- Real-time **Augmented Reality** translation app that uses **object recognition** to translate the surrounding environment
- **Contracted** for Toronto startup **Voila Learning** to implement similar technology for their platform
- Utilizes **Google Cloud's Vision API** for the object recognition and **IBM Watson's Translation & Speech-To-Text APIs** for translation features

SKILLS

COMPUTER LANGUAGES: Python, C++, C, C#, T-SQL, Java, Javascript

HUMAN LANGUAGES: English (Fluent), Japanese (N2/N3), Romanian (Conversational)

TECHNOLOGIES: Visual Studio, Qt, Adobe Illustrator, ELK, Microsoft SQL Server, Perforce, Unity, React, Audacity, Redux, Git, Construct

EDUCATION

University of Toronto - St. George

H.B.Sc. Computer Science Specialist - Expected 2020

Related Coursework: Data Structures | Algorithm Analysis | Software Design | Artificial Intelligence | Operating Systems | Multi-threaded Programming

Microsoft Database Administration Fundamentals (MTA: 98-364)

- Score: 92/100, proves proficiency in T-SQL scripting and database administration concepts

SMALLER PROJECTS

Through Hana - (Unity Personal Project) <ul style="list-style-type: none">Wrote vertex displacement shader and splat-map shader to emulate "walking on the clouds"	Mar. 2018
Uniform Grid Implementation - (C++ Personal Project) <ul style="list-style-type: none">Implemented a uniform grid collision detection system that increased efficiency by ~1000% compared to brute-force methods	Mar. 2018
Snake & Level Editor Dev Tool - (C++ Personal Project) <ul style="list-style-type: none">Created simple snake game and mouse-controlled level editor with text file reading/writing	Mar. 2018
Re-Lec (Software Engineering School Project) <ul style="list-style-type: none">A platform for students to upload and view lecture recordings using token-based reward systemImplemented mobile application portion of project which includes user authentication, mobile video recording, HTTP binary data file uploadManaged and worked with a team of 7 developers -Git branching and merge request workflow	Jan. 2018 - May 2018
Kleptomanihat - (UofT Game-Making Deathmatch: Unity C# Developer 1st Overall, Best Gameplay) <ul style="list-style-type: none">Developed a 2D platformer enemy script with line-of-sight, enemy spotted behaviour, and movement behaviourCompleted and polished product, tested, progressive tutorial, menu and game UI, game beginning and end states	Dec. 2017 - Jan. 2018
Game Nani - (THacks2: Unity C# Developer Best Developer Tool) <ul style="list-style-type: none">Data-oriented dev tool for Unity projects, aimed to optimize and automate playtestsDevised complex internal data structures for comprehensive data logging / graphing and JSON object compatibilityImplemented user camera movement tracking through raycasts, on pre- or post-defined GameObjects of interest	Oct. 2017 - Dec. 2017
DieDie - (Unity Personal Project) <ul style="list-style-type: none">Project on-pause, working with a small team on a mobile, online, casual dice and board-game inspired appAbstracted code into clear class-based designs, with minimal dependencies, including a Game State system for easy state management and transitionImplemented a top-down path-following solution that works with multi-leveled environments	Oct. 2017 - Dec. 2017
Finding Yin - (Unity Personal Project) <ul style="list-style-type: none">On-and-(currently)off project, 2D platformer inspired by Yin and Yang and Japanese zen elementsCreated own robust level and score managing system, and own vector character sprites and background elements	June 2017 - Aug. 2017
Bouncy Cloud Shader - (Unity Personal Project) <ul style="list-style-type: none">Learned to work with Unity ShaderForge to attempt to create a realistic bouncy-cloud shader with a gradual vertex offset at point of contact, and natural flowing clouds	June 2017 - Aug. 2017
Code Bumpin' - (UofTHacks 2017: Unity Game Developer) <ul style="list-style-type: none">A 3D platformer based on music visualization, made in less than 24hrsSplit audio signal into 512 samples, 8 frequency bands, and 1 average amplitude, using buffers to have smooth movement of 3D barsContacted popular EDM artists for legal commercial use of their songs (including Far East Movement and Electric Mantis)	Jan. 2017
Snake DIMENSIONS - (Unity Personal Project) <ul style="list-style-type: none">Published on Google Play Store, worked with Google Play Developer ConsoleImplemented Unity Singleton pattern for consistent GameObjects such as background music across all scenes	Dec. 2016 - Jan. 2017
Cookie Byter - (QHacks 2016: Full Stack Web Developer) <ul style="list-style-type: none">Clicker game inspired by "Cookie Clicker", but transformed into a "byte" oriented game, instead of tasty treatsIntegrated and synchronized click event scriptsImplemented tool tips on scroll over text with JavascriptUsed HTML/CSS to create entertaining game design elementsIntegrated persistent data logging for in-depth game statistics	Mar. 2016
Airplane Simulator (Java School Project) <ul style="list-style-type: none">Physics based simple 3D airplane simulator made only from the standard library in JavaUtilized complex physics concepts in implementation of 3D movementPerspective, utilizing angles to move objects, and velocity were taken in account for realistic simulation	2014
Building Personal Computer (Hardware Personal Project) <ul style="list-style-type: none">Learned a deep knowledge of computer hardware and how components interactImplemented AMD's Crossfire video card technologyCreated a personal configuration for Windows 8	2013