Dhruv Warrier

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Second year computer engineer excited about creating things and always looking to learn from them. I'm passionate about working with teams, and have experience working in research and in fast-paced, start-up-like environments. I'm capable at front-end web design, and have experience with **C# (Mono, .NET), JavaScript, C++, C, and Verilog.**

I am looking for an internship that will help me grow with your company.

experience

Research Assistant

DEC 2017 - PRESENT

github.com/dhruvwarrier/city-builder

I'm a research assistant with Dr. Tamer Diraby, creating software tools for civil engineers using insights from Dr. Diraby's research. Our current focus is "city-builder", a cross-platform tool that can help civil engineers design roads and cities. I'm part of a team of 2 designing and implementing the software in **C#/Mono.**

- I designed a framework that allows the user to import a custom file format (**.city**) and load 3D cities ready to be edited into the 3D view.
- I designed and implemented our standard library, consisting of classes like City, Road, RoadData, Lane, etc. The library exposes a simple API that makes creating roads/cities easy on the fly, by handling all communication with the 3D renderer.
- We present our work every 2-3 weeks to the research group.

Founder of BTS, indie game team

SEP 2017 - PRESENT

github.com/dhruvwarrier/905

I founded BTS, an indie game team based at University of Toronto with members from Toronto, USA, and India. I actively work on programming and 3D modelling/artwork design. We're working on our first game: **905**. 905 is a game about robots and the Zeroth Law, and is being developed on **UnityEngine in C#/Mono.**

- I developed the movement and animation systems for the enemy robots and the main robot character.
- I designed the objective manager system, a system that stores and keeps track of in-game objectives and actions.
- We have an early playable demo! brokentablestudios.com/demo. It showcases our 3D modelling design and an early version of the movement/animation systems.

Co-founder and Developer at start-up incubator

MAY 2018 – JULY 2018

mypulse.ca, github.com/dhruvwarrier/pulse-website

I was part of the Hatchery NEST summer cohort (a start-up process at University of Toronto: uofthatchery.ca) as part of team Pulse. We explored ways to improve the events experience for young professionals and organizations, with a focus on networking and career-related events. Pulse gave me an appreciation of the product behind the code, and an opportunity to experience a highly iterative and dynamic design process.

- I directed and pitched our product at biweekly pitch sessions in front of a panel of investors, and worked with our mentors to constantly increment our product.
- I worked with multiple on-campus student groups to campaign the use of Pulse within the student community, and to hear their grievances regarding the event organization and attendee experiences.
- I developed Pulse's current website at mypulse.ca using **HTML, CSS, JS and jQuery.**

skills

Front-end web design

- HTML5
- CSS3
- JavaScript
- jQuery
- Jade (Pug)

Game design

- C# (Mono, .NET)
- Unity
- Blender
- Photoshop

Languages

- C# (.NET)
- JavaScript
- C++
- C
- Verilog
- 8085 assembly

other

- Git
- Visual Studio 2015
- MATLAB
- MS Office

projects

bending-moment-analysis: Analyses the max bending moment of a train passing over a bridge. Features a 2D simulation and a GUI. Written in C#.

github.com/dhruvwarrier/bending-moment-analysis

domain-name-search: A simple DNS tool, optimized to quickly search and manipulate domain names from a large database of nodes, using a binary search tree. Written in C++.

raycast-3d-maze-verilog: A 3D renderer for Cyclone V FPGAs, written in Verilog. Designed for VGA displays.

github.com/dhruvwarrier/raycast-3d-maze-verilog

othello-ai: An AI that plays the board game Othello, using a predictive method to look several moves ahead. Features a command-line interface. Written in C.

github.com/dhruvwarrier/othello-ai

education

University of Toronto St. George

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BASc Computer Engineering (GPA 3.27)
SEP 2017 – APRIL 2021 (expected)

- Elected First Year Computer Engineering class representative, member of Faculty Council
- Member of UofT Robotics Association Humanoid team, performing research on high-level synthesis of MATLAB, C++/C code into hardware descriptor languages like Verilog