Vincent Terpstra
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Programmer Profile

I am a programmer, an innovator, an entrepreneur. I have **3 years experience,** tinkering with **Java,** developing Android applications using the LibGDX stack. I excel at problem solving; designing and building creative applications. I recently graduated with a **Computer Programming Diploma** from **Seneca ICT;** learning fundamentals in full stack development, database management and object-oriented programming. I am always learning, applying my knowledge, and challenging myself to implement unique and exciting ideas.

Project Portfolio: https://github.com/vincent-terpstra

Pool Game – Java & LibGDX & OpenGL – Independent 2019 - 2020
– Implemented the UI, physics engine, and renderer for an Android application. Designed an OpenGL shader to render 3D pool balls from a square, linear algebra and a Phong algorithm.

Sudoku Solver – C & CUDA – Class group project 2019
– Collaborated with a team of students to profile a 25x25 Sudoku solver. Rebuilt as a kernel for a Nvidea GPU. Reduced the run-time of the algorithm from 16 minutes to 750 microseconds!
– https://wiki.cdot.senecacollege.ca/wiki/TriForce

Heroku WebApp – Javascript & Node.js – Class Assignment 2018
– Used MongoDB to implement a user login system with password encryption. Created a basic employee management system, on a PostgreSQL database, with CRUD functionality.
– https://vincent-terpstra.github.io/HerokuWebapp/

A* Path-finding Algorithm – Java & LibGDX – Independent 2018
– An experiment with algorithms; implemented a hexagonal grid and randomly generated 'infinite' map organized in Quad tree sections. Applied A* path-finding algorithm using a distance heuristic. Added direction to reduce neighbour nodes and decrease compute time.

Education – Computer Programming Diploma –

Seneca's School of Information & Communications Technology 2018 - 2019
- Fall 2018 **President's Honour List** for academic achievement.
- 4.0 GPA
- **Tutored** several students for the **C++** final**.**

Classes & Skills
- Web Development - **Javascript, html, css**; Built a website with node.js, Express framework, and Handlebars templating. Implemented back-end using mongoDB and postgreSQL.
- **C++** – in depth look at: classes, standard function library, containers, lambdas, pointers, templates
- **Java** – programming simple apps with javaFX; sockets, streams, multi-threading
- **Database Management** – using IBM's iSeries & SQL, normalizing data, joins, CRUD; rpgle, clle
- **Systems Analyst** - Writing business use cases and system diagram documents
- **GPU -** professional option - Application profiling, Big-O notation, writing kernels using Nvidia CUDA toolkit for many-core devices. Introduction to OpenCL.

Personal Interests

Indie Game Dev – Board games – Distance running – Reading – Creative writing.