





TIM GU

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The University of Waterloo Computer Engineering 2022

Skills

Programming: C++, Python, Qt5

Mobile: Java, Android Studio

Hardware: VHDL, Verilog

Web: HTML5, CSS, JavaScript, SQL Server

Data Science: Tensor Flow, MatLab, R, VBA

Projects

Concrete Neural Network

TensorFlow & Python

[Jun 2017 – Present]

A deep GAN neural network trained to generate concrete mixes for desirable tensile and compressive strength of resulting concrete.

FlashMemorizeDroid

Android Studio & Java

[Oct 2018 – Present]

An Android application capable of taking lines in a text document separated by tabs and generate a deck of flashcards from it. The program offers various card-shuffling methods and tracks user record.

CppNeuralNetwork

C++

[Jan 2019 – Present]

A basic SGD NN with Sigmoid Activation function written in C++ without any external library. It was created for a better understanding of basic NN models. The network is functional with MNIST dataset.

BitTimeManager

Python

[Jan 2019 – Present]

A time management app using Google Calendar API. It is able to take an event and fit it into an existing calendar in an optimized manner.

Experience

Ambient Air Data Analyst

Environment and Climate Change Canada

[Apr 2018 – Sep 2018]

Managed National Air Quality Surveillance Program Data base in SQL Server and developed custom data analytics software using a combination of R, MatLab, SQL and VBA. Migrated data from MS Excel and MS Access database to the NAPS SQL database. Assisted in redesigning the NAPS Web Portal to support real-time data updates and interaction.

Agile Web Project Coordinator

QingPath Inc.

[Jan 2017 – Apr 2017]

Agile Web Development for community-centric small businesses with Mobile-First development concepts in mind. Worked on projects built using Bootstrap framework with HTML5, CSS3 and JavaScript. Performed cross-browser QA testing and debugging and communicated with clients for project details and specification.

Engineering Student

Township of South Frontenac

[Sep 2017 – Dec 2017]

Created a traffic data management system using VBA and Google Maps API. Hooked the software to AutoCAD Civil 3D using VisualLisp for real-time update on the system. Also created other tools and softwares using VBA and Python as requested by the Township staff.