David Duan

david-duan.me | 506-871-9755
linkedin.com/in/david-duan | j32duan@uwaterloo.ca
github.com/rootofallevii | bitbucket.org/rootofallevii

- **Proficient** in Python, C/C++, JavaScript, Scheme, Linux and Shell Scripting
- **Familiar** with Node, Express, React, jQuery, Django, Pandas, Scikit-Learn, Haskell, Java, C#, HTML, CSS
- **Version control:** Git, GitHub, Bitbucket
- **Cloud services**: AWS, Heroku
- **Database:** MySQL, SQLite, MongoDB
- **MISC:** RESTful API, MVC, TDD

RELEVANT EXPERIENCES

Played-Before | Tracking Classical Pieces I Have Played Before   2018
- Implemented web application with **MongoDB**, **Express**, **React**, and **Node** stack
- Devised and tested a flexible **RESTful API** to perform common CRUD functions from back-end
- Launched application via cloud computing on an **Amazon EC2** instance running **Ubuntu Linux**

URL Organizer | Store the Most Useful Websites in One Place   2018
- Created the front-end using **HTML**, **CSS**, **Bootstrap** and **Django Templates** with CSRF protection
- Constructed the backend with **Django** framework and stored relevant data in an **SQLite** database
- Deployed the application to **Heroku** cloud platform with **Gunicorn** application server

Tower of the Sorcerer | 2D Non-Linear Open-Ended RPG Game   2017
- Reimplemented the classic puzzle game with original storyline and characters in **Python**
- Used **Pygame** for GUI and other event-handling tasks including collision detection and animation
- Maintained an external library to support customized character attributes and floor maps

Circle of Time | Personal Daily Planner Application   2017
- Developed the time planning Windows desktop application with **Visual C#** and **.NET WPF**
- Presented users a straightforward visual model which represents 24 hours in one circle
- Incorporated algorithms performing habit analysis by keeping track of daily time usage

AWARDS & ACHIEVEMENTS

- **1st Place, Bill Davis Memorial Trophy** | New Brunswick High School Programming Competition   2017
- **Contest Medal, Certificate of Distinction** | CEMC Euclid Mathematics Competition   2017
- **Principal's Honours List, Top-10 Graduate** | Bernice MacNaughton High School   2017
- **3rd Place Team, All Star Award** | Southern Massachusetts Conference Math League   2016
- **1st Place Team, Individual Division** | Rockdale Mathematics Competition   2014

EXTRA-CURRICULARS

Robotics Team Leader | Bernice MacNaughton High School Robotics and Automated Technology   2017
- Led a three-person robotics team to win the first place in school competition with a full score
- Enhanced overall performance by doing simulations with teammates using variable parameters
- Maintained rigorous documentation of robot development based on the engineering design process

Concertmaster | Bernice MacNaughton High School Orchestra   2017
- Advised the conductor about piece selection, personnel placement and more
- Provided guidance on fingering, bowing and other string instrument techniques to section members
- Helped the management coordinate various events including Christmas and End-of-Year performances

EDUCATION

University of Waterloo, Candidate for Bachelor's Degree in Computer Science, 2022
- **Scholarships**: President's Scholarship of Distinction (average 98.2%), Mathematics Entrance Scholarship