

David Duan

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AREAS OF EXPERTISE

- Languages: Python, C/C++, JavaScript, HTML, CSS, Scheme, SQL, Java, C#, Haskell, VBA
- Frameworks: Node, Express, React, Django, Pandas, Scikit-Learn, Scrapy, Git, Jekyll, Bootstrap
- Other skills: Linux and Shell Scripting, MongoDB, MySQL, SQLite, RESTful API, MVC, AWS, TDD

RELEVANT EXPERIENCES

Played-Before | Tracking Violin Pieces I Have Played Before 2018

- Implemented web application with MongoDB, Express, React, and Node
- Devised and tested a flexible RESTful API to perform common CRUD functions from backend
- 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

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

EXTRA-CURRICULARS

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

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 full score
- Enhanced overall performance by doing simulation with teammates using variable parameters
- Maintained rigorous documentation of robot development based on the engineering design process

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
- **Select courses:** Object-Oriented Software Development, Elementary Algorithm Design and Data Abstraction, Designing Functional Programs, Computer Organizations and Design, Probability

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
- 3rd Place Team, All Star Award | Southern Massachusetts Conference Math League 2016
- 1st Place Team, Individual Division | Rockdale Mathematics Competition 2014