DUO TAO

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EDUCATION

Carleton College (Liberal arts college in Northfield, MN) (2014 - 2018)
B.A. in Computer Science, B.A. in Physics
Cumulative GPA: 3.843 / 4.000
2015 - 2016 Dean's List (top 10% of class)

WORK

Electronics Lab Assistant @ Carleton College Physics Dept. (Sep 2016 - present)

- Research on technologies related to campus projects such as establishing secure P2P Wifi bridges for the data collection / distribution of Carleton weather tower.

Data Analysis Research Assistant @ LIGO Scientific Collaboration (Apr 2016 - present)

- Completed the search of ~300 noise sources in the gravity wave signals by developing a full kit of scripts / software that automated the process
- Designed and implemented an algorithm that optimized the grouping of noise lines in Java
- Accelerated the data visualization by 10 times with an algorithm in MATLAB
- Automated the file operations with a GUI software built with Objective-C

Full-stack Web Development Intern @ 91 JinRong (Nov 2015 - Jan 2016)

- Developed a stock analysis web app with HTML, CSS, Javascripts (Node.js) and MySQL, which provides timely analyzed data for the quantitative investment department every 0.5s
- Sped up data streaming by ~300 times by reinventing frontend and backend logic
- Commended by CTO as "capable of deep researching and quick prototyping."

PROJECTS

Hitsthebooks.com (Jun 2015 - present) -Carleton textbook trading platform
Launched a website at Carleton for students to share the textbooks. Built essential app features with using HTML, CSS, Javascripts and MongoDB. Over 100 students registered and over 200 textbooks posted within one week. Contributed 15 bug fixes since launching

Data Structures Visualizer (Apr - Jun 2016) -Software that helps teaching data structures
Extensible Java software that visualizes the construction and operations of stacks, queues and heaps

MIDI Song Writer (Jan - Mar 2016) -Music software that makes writing music so easy
GUI software made with Qt, written C++, composes multi-track MIDI music intuitively

Line Detector for drones (Jan 2016) -Efficient computer vision processor for the drones
A computer vision script using C++, fast enough for drones to react to obstacles / targets
Installed on our drones for International Aerial Robotics Competition

COURSES

Algorithms, Linear Algebra, Programming Languages, Database System, Math Structures, Electronics, Thermal Physics, Ordinary Differential Equations, Parallel and Distributed Computing, Data Structures, Software Design, Audio Programming

SKILLS

Experienced with Java, Web Development, SQL, MongoDB and MATLAB

HONORS & AWARDS

SpaceX Hyperloop Pod Design Weekend (115 / 1000+ teams selected to attend)
Andrew W. Mellon Broadening the Bridge Grant (Received as STOC Engineering Team)