Kaihan Zhu

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PROJECTS

Website for Shanghai Greenpool Environmental Technology Co., Ltd. — since June, 2017

http://shgreenpool.com

Plan, build, and maintain website.

Dynamic website with LAMP model.

Stock Prediction — July to August, 2017

Tried to predict whether certain stock in Chinese stock market will be worth buying the next day using open, high, low, and close prices data from the past 100 days using deep learning with Tensorflow.

The accuracy is not statistically significant.

Home Automation — April, 2016

Used Java with CMUSphinx for speech recognition and Philips Hue to control lights.

Brought convenience to large households and mobility to people with this technology.

Rect() (iOS Version) — January, 2016

The iOS version of Rect() that was originally created as a final project during summer session I attended at Stanford.

It is a lot smoother and less buggy.

Ultra Simple Browser — September, 2014 to September, 2015

Created a browser that allows people to navigate through the internet with simple mechanics on iOS. Free on App Store since February, 2015.

It currently has approximately 1000 downloads from all countries around the world.

ACTIVITIES

CRC (China Robotics Challenge, FRC Post Season Chinese Version) — June to August, 2016

Programmed robotics controller, RoboRio, using C++. Design robot with Creo.

Programmed robot vision using OpenCV with Jetson TK1.

FRC (FIRST Robotics Competition) — December, 2015 to April, 2016

Team 5824 in Las Vegas Sectionals.

Mainly programmed for robot using C++. Also hunted for allies.

DUSO Math Competition — School Activity; 2015 - 2017

Lead Math Team "A" to win second place in DUSO (Dutchess Ulster Sullivan and Orange counties) Math League regular season. 4th place in DUSO invitation-only sectionals.

I am one of the three students in my school who were invited to NYSML (New York State Mathematics League) competition.

VIM China National — Beijing, China; August 2015

Understood the concept of stocks, stock market, and trading and simulated trading with Fortex.

Discovered stock technical analysis. Improved William's Overbought/Oversold Index.

Robotics Feiyue Program — Carnegie Mellon University; July 18 to August 3, 2014

Learned basic robotics principles, including mechanical design using Solidworks, sensor integration with Arduino, and programming control for autonomous mobile robots using Arduino.

EDUCATION

Undergraduate — University of California, San Diego; La Jolla, CA; since 2017, expected to graduate in 2021

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Intended Major (Currently Undeclared): Computer Science with minor in Math

High School — Our Lady of Lourdes High School; Poughkeepsie, NY; 2013-2017, GPA 3.6

Computer Simulations and Interactive Media, Stanford Pre-Collegiate Summer Institutes — Stanford University; Stanford, CA; July 13 to August 1, 2015

Learned whole process of game development, from design to testing. A team project, Rect(), was created to have a general practice of simulation, prototyping, and real world applications.

SKILLS

Skillful use of Pascal, C, C++, Java, Swift, Python, PHP, SQL, HTML, JavaScript, CSS.

Familiar with jQuery, OpenCV, WPILib, CMUSphinx, Tensorflow, MySQL, Solidworks, Creo.

Developed with Raspberry Pi, Arduino, iPhone, MacBook Air, RoboRio, Jetson TK1.

RELEVANT COURSES

CS231n: Convolutional Neural Networks for Visual Recognition, Stanford University — Finished

Self-studied the course by watching videos of its lectures on YouTube.

Read notes on course website.

Did all assignments myself.

CSE 11: Introduction to Computer Science and Object-Oriented Programming: Java — Ongoing

MATH 18: Linear Algebra — Ongoing

MATH 20B: Calculus for Science and Engineering — Ongoing

CSE 12: Basic Data Structures and Object-Oriented Design — Planned

CSE 15L: Software Tools and Techniques Laboratory — Planned

MATH 20C: Calculus and Analytic Geometry for Science and Engineering — Planned

MATH 109: Mathematical Reasoning — Planned

MATH 20D: Introduction to Differential Equation — Planned