Kaiyuan Zhao

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EDUCATION

Northeastern University, Boston, MA Dec 2019
Master Of Science In Information Systems
Courses: Web Engineering and Development, Application Engineering and Development, Smartphones-Based Web Development, Program Structure And Algorithms, Software Quality Control And Management

University of Nebraska Lincoln, Lincoln, NE May 2017
Bachelor Of Science in Mathematics (Minor in Computer Science)
Courses: Probability, Distribution Theory, Internet System and Programming, Computer Organization

TECHNICAL SKILL

Programming languages: Java, C++, C, Swift, Objective-C, Python
Web Development skills: HTML/CSS, AngularJS, JavaScript, jQuery, JSP
Database: MySQL, NoSQL, MongoDB, Firebase
QA Testing skills: Micro Focus UFT, Selenium

WORK EXPERIENCE

Mobile Application Developer (iOS), EYEnexo LLC, Boston MA Jan 2019 – Aug 2019
Responsible for design and develop iOS Apps for doing accurate eye examinations without any phone attachments. All products include UI design, algorithms and databases, it is being widely used in Massachusetts's hospitals.

- Act as technical lead on projects, assist in analysis, design, develop and perform beta test with other team members, communicate closely with product manager and QA team to continuously improve apps.
- Used multiple developing tools like XCode, Swift, Objective C, Interface Builder, Instruments, Cocoa Touch.
- Cropped the face image from the patient and passed to the library, used OpenCV and algorithms to process the image such as calculating strabismus angle, pupillary diameter and reflection position for each eye, it can also calculate interpupillary distance between two eyes instead of measuring them.
- Designed and developed prescription power test by using Google Mobile Vision to ensure the patient is at correct distance with correct eye opened, and developed multiple letter modes, voice mode, understandable instruction User Interface to make the software user friendly.
- Used Ophthalmological equation to calculate the refractive error and used Google Mobile Vision to measure the face distance in real time.
- Developed side vision test using algorithms like shuffling and sorting, designed custom collection view and custom alert view to make the test easy to use, it is ok if the patient cannot distinguish between left and right.
- Used Core data and Firebase to store user's information and test result online and in the device, users can share their reports to doctor via encrypted document for privacy purpose.
- Identifying and debugging problems by testing in different cooperative hospitals give feedbacks from patients and correcting them, and make sure the product is compatible with all Apple Devices.

PERSIONAL PROJECT

Genetic Algorithm (Java) Oct 2018 – Dec 2018
The algorithm is to evolve random black pixels on a white background, use them as parents to produce the children for next generation, eliminate unsuccessful generations, evolve toward the solution image.

- Initialize the first generation with 1000 random pixels and calculate distance between them and target pixels.
- Designed the function of mutation, crossover, evolution, children will survive 50% for next generation.
- Used multi-thread in the crossover process, evolved into the final with 94.91% fitness after 5000 generations.

Online Shopping System (Angular, Web API, JavaScript, HTML/CSS). Oct 2017 – Dec 2017

- Design the UI by bootstrap CSS library and search algorithms which can search products in each category.
- Set up 5 main different roles in the system and establish the account information connection to the back end.
- Developed the MongoDB database which connects the backend and keeps all users' information and data.