Mingyuan (Allan) Huang

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Objective

Seeking for a full time position as a software developer

Education

Cornell University, Ithaca, NY *Expected Graduation Date: Dec 2015*

- Master of Engineering in Electrical & Computer Engineering GPA: 3.98 /4.0

Case Western Reserve University, Cleveland, OH *May 2014*

- B.S. in Biomedical Engineering Minor: Electrical Engineering GPA: 3.67/4.0

Relevant Coursework & Skills

- Objected Oriented Programming; Data Structure and Algorithm; Introduction to Database System; Operating System
- Web Design; Practicum in Database Systems; IOS Application Development; Model Based System Engineering
- Digital System Design Using Microcontroller; Advanced Electronic Bioinstrumentation; Master of Engineering Design

Skills: MySQL; Java, C++; Matlab; HTML; CSS; Python; Flask; Hadoop; Neo4j

Academic Projects

Database System Based Projects

- **B+ tree implementation**
  Implemented a B+ tree structure with fundamental functionalities including search, insert and delete nodes
  Applied redistribution, merge or split strategies to handle special cases during element insertion or deletion
- **Page Rank implementation**
  Implemented a simple page rank algorithm using map reduce on Hadoop
  Successfully passed all test cases including dangling nodes, cycles, and improved understanding of page rank
- **Graph Queries using Neo4j**
  Constructed a graph database and solved questions related to the graph data using Neo4j
  Improved understanding of graph database and cypher language

Java Based Projects

- **Images Collision Detection:**
  Designed a program to detect whether different image shapes overlap when dragging them using a mouse
  Implemented binary search tree data structure for storing image pixels to expedite the collision detection process
- **Parcel Delivery Game**:
  Designed a parcel delivery game by implementing Dijkstra's shortest path algorithm to find shortest routes, and used Min Heap and Hash Map data structures to expedite the searching process
  Implemented different delivery strategies to optimize the delivery efficiency and optimize profit

Microcontroller-based Design Projects, Cornell University *September, 2014-December, 2014*

- **Smart Pill Box:**
  Used a 1284P microcontroller to design and build a programmable smart pillbox with LCD screen, seven segment LEDs and keypads to remind users to take medicines
- **Other projects:**
  Designed and implemented embedded projects, including capacitance meter; video game and motor controller and tachometer using ATMEGA 1284P microcontroller
  Improved knowledge in C programming, PID control algorithm, state machine

Work Experience

Avionic System Department, Shanghai Aircraft Design and Research Institute Shanghai, CN
System Engineer Internship *June-August, 2014*

- Assisted compiling English version of ARJ21-700 aircraft Auto Flight Control System (AFCS) certification test report.
- Improved understanding of the evaluation methods for the software safety of the flight guidance system.
- Improved Matlab algorithms and GUI to assist the ARJ21-700 aircraft test flight data analysis.

Interests

- Swimming, Kayak/ Paddle Board, Watch Movies, Watch TED talks