|  |  |
| --- | --- |
| Shangway hsu | Cell: 408.368.9917  Email: Shangway.hsu@gmail.com  https://www.linkedin.com/in/shangwayhsu  https://github.com/ShangwayHsu |

# EDUCATION

**University of California, San Diego**    Expected Graduation: 2018

**B.S. Computer Science, Minor - Cognitive Science**           Cumulative GPA: 3.66 - Major GPA: 3.86

**Related Coursework:**

CSE 100: Advanced Data Structures and Object-Oriented Design    CSE 20: Discrete Mathematics

CSE 30: Computer Organization and Systems Programming    CSE 21: Mathematics for Algorithms and Systems

CSE 105: Theory of Computability CSE 101: Design and Analysis of Algorithms

# SKILLS

|  |  |  |
| --- | --- | --- |
|  | **Proficient in:** Java, Python, HTML/CSS/Javascript, Unix, Git  **Working Knowledge:** C, C++, Swift/iOS/Xcode |  |

# EXPERIENCE

I**ntern**

**SLAC (Stanford Linear Accelerator Center) National Accelerator Laboratory:**  Jun 2015 - Aug 2015

* Implemented an optimization algorithm in C++ called Particle Swarm to find an optimal configuration for SLAC’s LCLS (particle accelerator) in order to form a coherent electron beam.
* Used Python MATLAB library for visualization of optimization simulation data.
* Made improvements to the algorithm responsible for the electron beam bandwidth calculation.

**Swim Instructor**

**De Anza Cupertino Aquatics**                                                             Jun 2014 – Sep 2014

* Taught students ranging from ages 3 to 40 year olds using DACA's swimming curriculum.
* Learned how to communicate effectively with students and how to be creative in creating lesson plans.

**Front Worker**

**Dim Sum King**                                                        Mar 2014 – May 2011

* Serve customers Chinese take out food.
* Duties include: operating the cash register, packing food, taking orders in Chinese.

# PROJECTS

**Personal Website [**[**http://shangwayhsu.github.io]**](http://shangwayhsu.github.io/)

* Implemented personal website to showcase projects through the use of BootStrap, HTML/CSS/Javascript.
* Single-page website with scrolling animations and dynamic background
* Resizable page with mobile support and collapsible navigation bar.

**To-do List App - iOS App Development**

* Written in Swift and Xcode
* Xcode StoryBoard for UI elements and navigation control
* Functionality includes adding new items with title of even and a short description, and deleting/editing existing fields.

**Autocomplete - C++**

* Used Multiway Trie to implement a dictionary capable of Autocomplete.
* Use of Priority Queue to store additional relation between nodes to decrease autocomplete time at the cost of space.
* Multiway Trie guarantees O(L) in find() and autoComplete(), where L is length of the longest word.

**Replica of 2048 Puzzle**

* Backend created using Java using matrices to represent the tiles of the game.
* GUI created using JAVAFX 8 and supports window resizing.
* Additional functionality includes: saving game states, loading game states from text file, and multiple game grid sizes.