B R I A N L Y U

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EDUCATION

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

- Bachelor of Science, Computer Engineering **GPA: 3.49**
- Warren College Provost Honors

TECHNICAL PROFILE

- **Programming Languages:** C++, Java, SQL, HTML, CSS, JavaScript, Bash, AutoIt
- **Software Tools:** PuTTY, Vim, Git**,** XCode, Android Studio, Eclipse, AquaData Studio, Microsoft Office

PROFESSIONAL EXPERIENCE

Programmer Analyst, UCSD School of Medicine **June 2016 – Present**

- Assisted in developing business software systems, web applications, and analytic reports for internal company operations.
- Built SQL queries with joins, grouping, and aggregations to manipulate and probe datasets from extensive databases.
- Wrote Bash scripts and integrated MySQL queries to perform daily data validations and enhance automated test scripts.
- Wrote AutoIt scripts to test the functionality of web and software applications, while automating working status reports.

PROJECTS AND ACTIVITIES

Theta Tau FlagBot, Mechanical Robot **April 2016 – May 2016**

- Constructed a DC-Motor powered wheeled robot, capable of multidirectional movement and location awareness.
- Utilized an Arduino Uno to program the robot's movement, speed, and a flag waving mechanism for club advertisement.
- Paired the robot with an Android controller app, allowing wireless control of the robot via a HC-06 Bluetooth module.

Couple Tones, Mobile Android Application **February 2016 – June 2016**

- Developed a location-based Android application providing push notifications when user contacts visited certain locations.
- Employed the Google Maps API, where users could select a specific location on the map and pin it as a "favorite".
- Used JIRA for issue delegation, as well as Agile software development methods such as iterations, user stories and tasks.

Dictionary AutoComplete & Spell Check **May 2016 – June 2016**

- Enhanced a C++ autocomplete/spell check algorithm designed to list out possible word completions for an input prefix.
- Implemented a Multiway Trie structure for efficient search and insertion, decreasing original prefix search time by 80%.

Huffman File Encoder and Compressor **May 2016 – June 2016**

- Developed a program that both encodes and compresses input text files by storing ASCII character frequencies in a trie.
- Used the binary trie and Huffman's algorithm to allow eventual decoding of the file, which is up to 10 MB in size.

Application Development Club **August 2013 – June 2014**

- Created a Java GridWorld interfaced game with KeyListener implementations to facilitate 8-way directional movement.
- Assisted in teaching peers Java OOD concepts and Android mobile application development using Android Studios.

Mandarin Language and Cultural Center **August 2012 – June 2014**

- Developed leadership and management skills in overseeing weekly lesson plans focusing on culture and linguistics.
- Tasked with designing and leading group activities and discussion sessions; 350 service hours accumulated.

RELATED COURSEWORK

Advanced Data Structures

- Implementation of data structures for solving programming problems, focusing in memory management and efficiency.

Introduction to Computer Architecture

- Underlying design principles and comprehensive study of computer architecture, including processor and control design.
- Focused on computer system performance, including Instruction Set Architecture, pipelining, and memory hierarchy.

Software Engineering

- Software development methods focusing on Agile Software Process, Design Patterns, Refactoring, and OOD practice.

Components and Design Techniques for Digital Systems

- Studied the theoretical underpinnings of digital design, Finite State Machines and Sequential or Combinational Logic.