Tianqi (Tom) Zhu

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*Seeking for a **software engineering internship** opportunity for **summer 2018.***

EDUCATION

UNIVERSITY OF CALIFORNIA, DAVIS   **08/2017 - Present (Expected 06/2019)**
- *Pursuing Master of Science in Computer Science*
- Selected Coursework: Computer Organization & Machine-Dependent Programming, Data Structures, Algorithm Design, Programming Languages, Reinforcement Learning, Information Theory & Coding, Operating Systems, Software Engineering

UNIVERSITY OF CALIFORNIA, LOS ANGELES   **09/2013 - 06/2017**
- *Bachelor of Science in Electrical Engineering*
- Selected Coursework: Intro to Computer Science, Logic Design of Digital Systems, Design of Robotic System, Principles of Feedback Control, Applied Numerical Computing

TECHNICAL SKILLS

- **Programming Language:** (Proficient) C/C++, Java, HTML, Matlab, LaTeX; (Familiar) Python, Javascript, CSS, MySQL, Assembly language, PHP, Ruby
- *Tools/Environment:* Unix, Git, Arduino, jQuery, LISP, Bash/Shell, Raspberry Pie

WORK EXPERIENCE

BITAUTO HOLDINGS LTD. (NYSE: BITA)   **Beijing, China**
Software Engineering Intern   **06/2017 - 08/2017**
- Constructed a **MongoDB** database for inputting and extracting data to message the users
- Integrated vehicle data with an internal platform gem and added **subscriber endpoints** to enrich the content and enhance the accessibility of published vehicle data content
- Implemented **deep linking** of react/redux components to enable indexing of search filters for a frontend platform application
- Took responsibility in application versioning and maintenance for the mobile app

UCLA – W. M. KECK CENTER FOR NEUROPHYSICS   **Los Angeles, CA**
Research Assistance | Virtual Reality Project   **06/2016 - 05/2017**
- Aims to upgrade and optimize a VR project that simulates a virtual world for a rat to detect and analyze its neural activities
- Worked individually on improving the motion capture of a rat on a sphere by utilizing red light camera, while self-developing on-line researching skills and programming skills in **Matlab, C++** and **MySQL** to make the devices easy to control
- Actively collaborated with Professor Mayank Mehta in testing and modifying the code to improve system performance

LINDE ENGINEERING CO., LTD.   **Hangzhou, China**
Summer Engineering Intern   **06/2015 - 08/2015**
- Worked closely with co-workers and consultants on various engineering projects to improve plant processes, assembling and organizing data for audits, and editing equipment database entries in preparation for data migration in **Python** and **MySQL**
- Researched the viability of a new program or initiative; compiled and presented findings, Immersed in the operations of a leading global industrial gases and engineering company
- Carefully learned and researched **proportional–integral–derivative (PID) controller**

SELECTED PROJECTS

BATTLESHIP GAME (C++)   **UCLA, CS32 Intro to Computer Science**
- Implemented a **large programming** Battleship game, a game where each player places their ships on a 10x10 board and attempts to sink their opponent's fleet of ships before the opponent sinks theirs
- Designed algorithm and strategies to implement 3 levels of artificially intelligent battleship computer player and the best algorithm that I designed beat **90%** of classmates' computer player

JAVA TRANSLATOR (JAVA)   **UC Davis, ECS140A Programming Languages**
- Implemented a **Java** program that translates E programs to their semantically equivalent C programs. The program includes a **Scanner** that does **lexical analysis**, a **Parser** that deals with syntax, and a **Symbol Table** that deals with variables

MULTI-ARM BANDITS SIMULATION (MATLAB)   **UC Davis, EEC289A Reinforcement Learning**
- Using **reinforcement learning**, a type of machine learning to simulate and analyze **multi-arm bandit problem**
- Implement **sigma-greedy** and **upper confidence bound selection** on the multi-arm bandit problem to compare and analyze the **average performance** of two machine learning method
- Further studied Markov decision processes, dynamic programming, Monte Carlo methods, temporal-difference learning

GITLET - YOUR OWN VERSION CONTROL SYSTEM (JAVA)   **Personal Project**
- Gitlet saves snapshots of the files at different points in time and users could retrieve earlier versions at any time
- Implement a **version control system** that mimics some of the basic features of the popular version control system git
- Wrote commands for committing, branching, and grabbing files

NET DRIVE (C++)   **UC Davis, ECS60 Data Structure and Programming**
- Implemented a network drive system's documents transfer rules using **Fibonacci heap** and other data structures
- Implemented a small algorithm to achieve the **1st** in running time in class

PERSONAL WEBSITE (HTML/CSS/JAVASCRIPT/GIT/PHP)   **Personal Project**
- Launched a personal website using **GitHub** and tested **Javascript** programs on the website
- This website serves as a blog to record my understanding of difficult and interesting algorithm problems