# Tianqi (Tom) Zhu

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*Seeking for a **software engineer internship** opportunity for **summer 2018** that will allow me to utilize my problem-solving skills and attention to detail to further develop my abilities in the field of computer science.*

## 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, Programming Languages, Algorithm Design, Data Structures, 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
- Enhanced the accessibility of published vehicle data content by adding **subscriber endpoints**
- Enabled indexing of search filters for a frontend platform application by **deep linking** of react/redux components
- 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**

- A VR project that simulates a virtual world for a rat to detect and analyze its neural activities
- Improved the control of the device using **Matlab, C++** and **MySQL**
- **Tested** and modified the code to improve system performance with Professor Mayank Mehta

**LINDE ENGINEERING CO., LTD.** **Hangzhou, China**
***Summer Engineering Intern*** **06/2015 - 08/2015**

- Edited equipment database entries in **Python** and **MySQL**
- Improved plant processes, assembling and organizing data for audits
- Carefully learned and researched **proportional–integral–derivative (PID) controller**

## SELECTED PROJECTS

**BATTLESHIP GAME (C++)** **Spring 2016**

- **Large programming** game: player places ships on 10x10 board & attempts to sink opponent's ships before opponent sink theirs
- Implement 3 levels of artificially intelligent battleship computer player with different strategies
- The best algorithm that I designed beat **90%** of classmates' computer player

**JAVA TRANSLATOR (JAVA)** **Fall 2017**

- A **Java** program that translates **E programs** to semantically equivalent **C programs**
- Implemented 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)** **Fall 2017**

- Simulated and analyzed **multi-arm bandit problem** with **reinforcement learning**, a type of machine learning
- Compared the **average performance** of 2 machine learning method, **sigma-greedy** and **upper confidence bound selection**
- Further studied Markov decision processes, dynamic programming, Monte Carlo methods, temporal-difference learning

**GITLET - YOUR OWN VERSION CONTROL SYSTEM (JAVA)** **Spring 2016**

- 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

**NET DRIVE (C++)** **Spring 2016**

- 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