

# BOYI LI

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## EDUCATION

### The University of Texas at Austin

*Master of Science in Computer Science; GPA: 4.00/4.00*

Austin, TX

Aug. 2018 – CURRENT

### Zhejiang University

*Bachelor of Engineering in Computer Science and Technology; GPA: 3.91/4.00 (10%)*

Zhejiang, China

Aug. 2014 – June. 2018

## INTERNSHIP/EXPERIENCE

### Collaborative Active learning Tree for Cold-Start Item Recommendation

Oct 2017 - Feb 2018

*Simon Fraser University, Canada, supervised by Prof. Martin Ester and Prof. Chung Fu-Lai*

- Proposed a Collaborative Active Learning Tree model (**Matlab**) for cold-start item recommendation.
- Empowered the tree-based learning algorithm by exploiting content information of movies, solved low responsiveness and unbalanced tree problems.
- Applied matrix factorization implemented by Spark to predict movie preference of user clusters.
- Achieved high accuracy, outperforming baseline models with **5%** boost for predicting ratings of cold-start movies.

### Mobile App for Food Logging and Recommendation

Jul 2017 - Sep 2017

*Ubiquitous Computing Lab, National University of Singapore, Singapore*

- Designed a RESTful API (**Python**) with Flask to interact with the app, processed the pictures posted by users and fetched the nutrient values of the food in the pictures.
- Implemented two-constraint sorting algorithm (**Python**), sorted foods according to their taste and health value.
- Reduced the app's built-in camera delay by using AsyncTask.

## PROJECTS

### WatchOut!

*A wireless intrusion detection system based on acoustic information (C++/Python)*

- Achieved data recording and transmission on Raspberry Pi, sent and saved data in **MongoDB**.
- Implemented acoustic event detector, detected sounds using energy, amplitude variations using SVF, direction using **MUSIC**.
- Built a web monitor by Dash, displayed intrusion status and dynamic wave data in real time.

### MiniSQL

*A Mysql-like Database Management System (Java)*

- Implemented create/drop for tables, select/insert/delete/update for records, create/drop for indices.
- Built index manager module based on **B+ tree** structure, doubled the query efficiency.
- Achieved buffer manager for memory scheduling by **LRU algorithm**, minimized disk access time.

### Mini-C Compiler

*A language compiler translating C into executable MIPS assembly language (C)*

- Used Flex/Bison tools for lexical/syntax analysis, generated abstract syntax tree.
- Applied **Dynamic Programming for instruction selection**, improved the execution efficiency of the final code.
- Implemented **Graph-coloring** register allocation, reduced memory reads/writes and total memory usage.

### Room Break

*A game implemented by OpenGL (C++)*

- Created the game scene by **Maya**, implemented light control and texture control modules by **OpenGL** libraries.
- Built movement and collision detection modules by designing a map for items.
- Implemented event controller module by **GLUT**, enabled mouse and keyboard control.

## POSITION OF RESPONSIBILITY

### Graduate Research Assistant

*McCombs School of Business, The University of Texas at Austin*

Sep 2018 - CURRENT

## PROGRAMMING SKILLS

**Languages:** Java, Python, C, Matlab, R, Verilog, SQL

**Skills:** Data Analytics, Database, NLP, RecSys, Wireless