BOYI LI

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EDUCATION

The University of Texas at Austin — Austin, TX
Master of Science in Computer Science; GPA: 4.00/4.00 — *Aug. 2018 – CURRENT*

Zhejiang University — Zhejiang, China
Bachelor of Engineering in Computer Science and Technology; GPA: 3.91/4.00 (10%) — *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 movie 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 preferene 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

Topic-aware Seq2Seq Model for Text Summarization — *An attention-based encoder-decoder model (**Python**)*

- Implemented attention-based encoder-decoder model, achieved pointer-generator network to copy or generate words.
- Assigned probability of repetitive word phrases to 0 in beam search, alleviated the word repetition problem in summarization.
- Pretrained topic model by **LDA**, computed topic word embeddings for the topic words during the encoder stage.

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 Managerment 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 — Sep 2018 - CURRENT
McCombs School of Business, The University of Texas at Austin

PROGRAMMING SKILLS

Languages: Java, Python, C, Matlab, R, HTML, Verilog, SQL **Skills**: NLP, RecSys, Data Analytics, Database, Wireless