Boyi Li
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Education

- **The University of Texas at Austin** — Austin, TX
  Master of Science in Computer Science — *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*

Experience

- **Visiting Student** — Simon Fraser University, Vancouver, Canada
  Paper Submitted to KDD 2018 — *Oct 2017 - Feb 2018*
  - **Graphic Model**: Proposed a Collaborative Active Learning Tree model(**Matlab**) .
  - **Contributions**: Empowered the tree-based learning algorithm by exploiting content information of movies, solved low responsiveness and unbalanced tree problem.
  - **Prediction**: Applied Matrix Factorization implemented by Spark to predict movie ratings.
  - **Performance**: Implemented baselines on MovieLens dataset, achieved **5%** boost on RMSE for predicting ratings of new movies.
- **Research Intern** — National University of Singapore, Singapore
  Mobile App for Food Logging and Recommendation — *Jul 2017 - Sep 2017*
  - **Flask**: Designed a RESTful API(**Python**) with Flask to interact with the app, processed the pictures posted by users and fetched nutrient values of the food in the pictures.
  - **Food Sorting**: Implemented two-constraint sorting based on generic algorithm(**Python**), sorted foods according to their taste and health value
  - **Optimization**: Reduced the app's built-in camera delay by using AsyncTask.

Projects

- **MiniSQL**
  *A Mysql-like Database Managerment System in **Java*** — *Spring 2018*
  - **Functions**: Implemented create/drop for tables, select/insert/delete/update for records, create/drop for indices.
  - **Query Efficiency**: Built index manager module based on **B+ tree** structure, doubled the query efficiency.
  - **Disk Access**: 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* — *Autumn 2017*
  - **Abstract Syntactic Structure**: Used **Flex/Bison** tools for lexical/syntax analysis, generated syntax tree.
  - **Instruction Selection**: Applied **Dynamic Programming** for instruction selection, achieved optimum tiling by choosing the subtree with minimum cost for each step, reduced the execution time of the final MIPS code.
  - **Register Allocation**: Implemented **Graph-coloring** register allocation, spilled temporaries unable to get registers into memory, reduced memory reads/writes and total memory usage.
- **Room Break**
  *A game implemented by **OpenGL*** — *Spring 2017*
  - **Environment Modeling**: Created the game scene by **Maya**, implemented light control and texture control modules by **OpenGL** libraries.
  - **Game Controller**: Built movement and collision detection modules by designing a map for items.
  - **Event Controller**: Implemented event controller module by **GLUT**, enabled mouse and keyboard control.

Scholarships and Certificates

- Graduate Research Assistant at the University of Texas at Austin — *Current*
- Academic Scholarship of Zhejiang University, First Price (Top 1%) — *Sep 2015*

Programming Skills

- **Languages**: C, Java, Python, Matlab, SQL — **Skills**: Data Analytics, NLP, RecSys, Database