# BOYI LI

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#### EDUCATION

The University of	Texas at Austin	1		
Master of Science in	Computer Science	e, GPA: 3.89/4.00,	Graduate Research	Assistant

#### Zhejiang University

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

# PROGRAMMING SKILLS

Skills: Database, Compiler System, Web Development, NLP, RecSys, Data Analytics, Wireless, Automation Testing Languages: Java, JSP, JavaScript, HTML/CSS, Python, C/C++, Matlab, R, Verilog, SQL, Git

### **INTERNSHIP/EXPERIENCE**

### Feedback Loop in Amazon Seller Central

Software Development Engineer Intern, Pricing Systems, Amazon.com, inc.

- · Implemented feedback loop on automate pricing landing page of Amazon Seller Central (**Java**) to show seller's action status, designed and added additional columns in the table (**DynamoDB**) to save information related.
- · Designed and implemented APIs, added additional API calls in the controller of automate pricing editing page, fetched data related with the impact of seller's editing action and displayed them on the web page.
- $\cdot$  Worked closely with UX team to figure out user-friendly interactions on both landing page and editing page, added and adjusted web elements (**JSP/HTML/JS**) for informing sellers the status of their action.
- · Optimized front and back end code logic involved when seller's editing action takes place, alleviated the burden on the web server by decreasing requests sent to the back end API.
- $\cdot$  Performed front end integration testing by **DiamondToolkit**, ran **A/B testing** with Amazon's Weblab and rolled out new features to sellers incrementally.

# Collaborative Active Learning Tree for Cold-Start Item Recommendation Oct 2017 - Feb 2018

- Visiting student in Simon Fraser University, Canada, supervised by Prof. Martin Ester and Prof. Chung Fu-Lai
- $\cdot$  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 low RMSE, outperforming baseline models with 5% boost on accuracy for predicting ratings of cold-start movies.

### Mobile App for Food Logging and Recommendation

### Research intern in Ubiquitous Computing Lab, National University of Singapore, Singapore

- $\cdot$  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

**Corruption-aware Tensor Robust PCA**. An optimized **Tensor Robust PCA (TRPCA)** for image recovery. Incorporated corruption-aware mechanism based on Rank-Ordered Logarithmic Difference to locate corrupted pixels and constrain the entries of the noise matrix. Boosted the PSNR performance by 10%.

**Topic-aware Seq2Seq Model for Text Summarization**. An attention-based encoder-decoder model (**Python**). Implemented **attention-based encoder-decoder model**, optimized it by adjusting probability of repetitive word phrases in beam search and incorporating pretrained **LDA** topic model.

**WatchOut!** A wireless intrusion detection system based on acoustic information (C++/Python). Achieved data recording and transmission on **Raspberry Pi**, implemented acoustic event detector by using sound energy, built a web monitor by **Dash** and displayed dynamic wave data in real time.

MiniSQL. A MySQL-like Database Management System (Java). Implemented basic SQL commands, built index manager on **B+ tree** to double query efficiency, achieved buffer manager based on **LRU algorithm** to minimized disk access time.

**Room Break**. A game implemented by **OpenGL**. Created game scene by **Maya**, built light controller and texture controller to optimize the scene, designed movement and collision detection modules to trigger events.

Austin, TX Aug. 2018 – May. 2020

Zhejiang, China Aug. 2014 – June. 2018

Jul 2017 - Sep 2017

May 2019 - Aug 2019