Michael (Yicong) Mao

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Education

Brown University *Providence, RI, USA*

B.Sc. Computer Science *2017 - 2021*

- AI/ML and Systems Pathways
- Honors in Computer Science

Beijing No.4 High School *Beijing, China*

High School *2014 - 2017*

- GPA: 3.8/4.0

Professional Experience

2023-present **Research Engineer**, Shukun Technology
- Researching and designing robotics and software products to assist surgeons pre and during surgery. Developing AI algorithms for these robotics and software products.

2021-2023 **Software Engineer**, Microsoft
- Developed software that enables local servicing of existing SharePoint web applications to speed up current experiences and provide offline capabilities to online-only web applications.

2020 **Software Engineer Intern**, Microsoft
- Created a compact role selector and introduces improved UI and UX in 3 different sharing dialogs that are used more than 27 million times per month.

2018, 2019 **Intern**, Shukun Technology
- Developed algorithm to automatically roughly label arteries in chest CTA images with user interface for data labeling purposes.
- Ran experiments on mixed precision computer vision models as early exploration for adapting in-house algorithms to mixed-precision.
- Developed tools for Operations team to automatically collect CTA image from production machines.

Publications

Published

A Ilkhechi, A Crotty, A Galakatos, **Y Mao**, G Fan, X Shi, U Cetintemel. 2020. DeepSqueeze: Deep Semantic Compression for Tabular Data. SIGMOD '20: Proceedings of the 2020 ACM SIGMOD International Conference on Management of Data.

Teaching Experience

Spring 2019 **CSCI 1460/2460 : Computational Linguistics**, Head Teaching Assistant
- Developed course material including a general course plan, new homework assignments, supplementary labs, and stencil code and example solutions for homework assignments.

Research Experience

Brown University *Providence, RI, USA*

Advisor: Prof. Ugur Cetintemel *2017-2018*

- Semantic compression of tabular data using deep learning.
- Assisted in Dr. Amir Ilkechi in early-stage experimentation.

Brown University *Providence, RI, USA*

Reader: Prof. Eugene Charniak *2020-2021*

- Honors Thesis: "Tackling Overfitting in Video Language Inference"
- Explored methods of suppressing overfitting for a transformer model on the Violin video language inference dataset.

Individual Research *Redmond, WA, USA*

Advisor: Dr. Yu Cheng *2023-present*

- Created an adversarial VQA dataset to evaluate model performances on semantically tricky VQA questions.
- Working on creating a model that can reliably reject answering questions that are not answerable.

Outreach & Professional Development

Service and Outreach

2020-2021 **Brown Data Science Club**, Workshop Team Lead

2019-2020 **Brown Data Science Club**, Workshop Team Member

Personal Projects

OKAI, Website

- The project aims to demystify and introduce Artificial Intelligence concepts to a broader audience with limited or no background in computer science. It utilizes web-based interactive graphics and animations to visualize the working principles of Artificial Intelligence.
- Wrote 5 out of 6 chapters of the website.
- Website has over 150K pageviews and 35K users.