

# BILL(RUIXIANG) QI

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## EDUCATION

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**BS in Computer Science**, Emory University, Atlanta, GA 3.86/4.0 2016 - 2020  
Second Major in Applied Mathematics; Graduate with **the highest honor**, Member of Phi Eta Sigma

**MS in Computer Science**, University of California San Diego, San Diego, CA 2020- 2022(Expected)

## PUBLICATIONS

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**Ruixiang Qi** and Davide Fossati. 2020. Unlimited Trace Tutor: Learning Code Tracing With Automatically Generated Programs. *In Proceedings of the 51st ACM Technical Symposium on Computer Science Education(SIGCSE '20)*.

Sarah E. Finch, James D. Finch, Ali Ahmadvand, Ingyu, Choi, Xiangjue Dong, **Ruixiang Qi**, Harshita Sahijwani, Sergey Volokhin, Zihan Wang, Zihao Wang, & Jinho D. Choi. Emora: An Inquisitive Social Chatbot Who Cares For You. *In 3rd Proceedings of Alexa Prize(Alexa Prize '19)*.

## RESEARCH EXPERIENCE

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**Research Assistant** May 2019 - June 2020  
Emory NLP Atlanta, GA  
Alexa Prize@Amazon: First Place Winner with \$500,000 cash reward

- Develop a social-bot that achieved an average user rating of 3.8 on a 5-point scale compared to 3.17 achieved by the 2<sup>nd</sup>, and led an average conversation duration of 7 minutes and 37 seconds;
- Design and construct a database on an AWS Dynamo DB for querying sports related information;
- Build a topic handler in Python that create open-domain sports related conversations using a state-machine framework.

**Research Assistant** Jan 2018 - Jan 2020  
Enhanced Learning and Instructional Technologies at Emory Atlanta, GA

- Create a tutoring software using Java and JavaFX; help software users' quiz accuracy increased from 50% to 68% with an average learning gain of 18%;
- Develop a backtracking algorithm to randomly generate blocks of Java codes allowing users to practice tracing programs.

**Research Assistant** Aug 2020 - Pres.  
XuGroup at UCSD San Diego, CA

- Implement a UNET based Deep learning model with Pytorch and Keras for segmenting Ultrasonic Medical Images of Left Ventricles. Improve the model by adding attention gates to the network.
- Design a data imputation model to impute ventricle volumes of images that has inferior quality.

## ENGINEERING EXPERIENCE

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**Software Engineer Intern** May 2020 - August 2020  
Guarankey LLC Ann Arbor, MI

- Build a rental online marketplace website from scratch using React-Redux, HTML, JavaScript, CSS for front-end, Go for back-end and PostgreSQL for Database;
- Create an AWS Elasticsearch-based search engine for querying housing information;
- Build an in-app messaging module from scratch, enabling users to chat in real-time.

## Front-end Engineer

GoHousin(Course Project)

Aug 2018 - Feb 2019

Atlanta, GA

- Lead a group of visual designers and programmers to develop a student-affordable apartment searching website, utilizing agile project management;
- Construct the website's front-end interfaces with HTML, CSS, JavaScript;
- Implement a forum to build an online community for users.

## HONORS AND AWARDS

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**First Place, Amazon Alexa Prize Grand Challenge 3**

Aug 2020

**Academic Excellence Award(Scholarship), Emory University**

May 2020

## SKILLS

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**Programming Languages**      Java, Python, Go, C, SQL, JavaScript, PHP, Matlab, R, Swift

**Libraries and Frameworks**      Scikit, Keras, Git, JavaFX, React-redux, Mxnet, Pytorch

## EXTRACURRICULAR ACTIVITIES

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**Leading Actor**, Emory Chinese Theater Club

Aug 2016 – May 2020

**Flute Performer**, Emory Flute Ensemble

Aug 2016 – May 2020

**Active Member**, Emory Mathematical Modeling Association (EMMA)

Jan 2018 – May 2018