

# RUI CHEN

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M.S. student major in **Computer Science** at **Georgetown University**, looking for **Software Engineering/Data Science Internship**.

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## EDUCATION

<b>Georgetown University</b>	<b>M.S. Computer Science</b>	<b>Aug 2021 – now</b>
<ul style="list-style-type: none"><li>GPA: 3.833/4.0</li><li>Anticipated Graduation Date: <b>May 2023</b></li></ul>		
<b>Wuhan University of Technology</b>	<b>B.E. Computer Science and Technology</b>	<b>Sept 2015 – Jun 2019</b>
<ul style="list-style-type: none"><li>GPA: 3.74/4.0</li><li>3<sup>rd</sup>-level Scholarship in Nov 2018, 2<sup>nd</sup>-level Scholarship in Nov 2017</li></ul>		

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## WORK EXPERIENCE

<b><u>CMB YunChuang Information Technology Co., LTD</u></b>	<b>Oct 2020 – May 2021</b>
<b>Data Development Engineer   Wuhan, China</b>	
<ul style="list-style-type: none"><li>Developed scripts to export daily/monthly/yearly forms from bank transactions.</li><li>Developed DAO part of a demo phrase system “Cloud Map” using Django based on graph database Neo4j and Nebula Graph.</li></ul>	
<b><u>Wuhan Little Times Media Co. LTD</u></b>	<b>July 2018 – Aug 2018</b>
<b>Back-end Engineer(Full-time Internship)   Wuhan, China</b>	
<ul style="list-style-type: none"><li>Developed a C2C web platform for help-yourself Electrocardiogram(or ECG) test based on spring and mysql that contains 2 roles: doctors and patients.</li><li>Developed user system, order system and devices management for different roles separately.</li><li>Developed requests maker to fetch data from ECG self-testing devices based on okhttp3.</li></ul>	

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## ON-CAMPUS EXPERIENCE

<b><u>ToyDB: Implementation of Relational Database Management System</u></b>	<b>Feb 2022 – May 2022</b>
<b>Team Leader   Georgetown University, U.S.   Advisor: <u>Ophir Frieder</u></b>	
<ul style="list-style-type: none"><li>Implemented a relational DBMS using Java with Visitor Design Pattern that supports nearly full SQL syntax including implicit JOIN and arbitrary expression evaluation for WHERE and UPDATE conditions</li><li>Implemented full integrity constraints, cost-based and rule-based query optimizations</li><li>Achieved <b>less than 1 second response</b> for manipulating 1-million-records table.</li><li>Open source on <u>Github</u></li></ul>	
<b><u>the Impact of COVID-19 on people’s Travel by Air</u></b>	<b>Aug 2021 – Dec 2021</b>
<b>Main Contributor   Georgetown University, U.S.   Advisor: <u>Lisa Singh</u></b>	
<ul style="list-style-type: none"><li>Obtained data from <u>CDC</u>, <u>OpenSky</u>. Crawled tweets contains keywords “Covid” and “flight” from Twitter and cleaned all data.</li><li>Tagged randomly selected tweets and performed Sentiment Analysis for tweets text using VaderSentiment.</li><li>Performed SVM, random forest and other 4 classifier on CDC data to test their performance on classification of labeled death rate.</li><li>Designed static front-end web page based on bootstrap</li></ul>	
<b><u>Improvement of Object Detection Algorithm YOLOv3</u></b>	<b>Feb 2019 – Jun 2019</b>
<b>Lead author of Thesis for B.E.   Wuhan University of Technology, China   Advisor: <u>Gang Liu</u></b>	
<ul style="list-style-type: none"><li>Conducted the study of feature extraction backbone network DarkNet-53 and feature interaction network of YOLOv3, and the implementation based on PyTorch</li><li>Proposed improvement ideas concerning the prior frame of the model YOLO layer and the network structure of feature pyramid. Also proposed improvement ideas targeting at training dataset</li><li>Implemented this improved algorithm with <b>58.59% mAP</b> (better than the original one with 35.6% mAP) on BDD100K dataset at the real-time level for detection</li></ul>	
<b>Internet News Classification and Recommendation System</b>	<b>Mar 2018 – Aug 2018</b>

**Team Leader | Wuhan University of Technology, China | Advisor: [Gang Liu](#)**

- Constructed a `character - level` CNN classification model based on TensorFlow with input of vectorized text data using `word2vec`
- Trained the model with 450k news data from and achieved a classification accuracy over 95%
- Designed and developed web back-end interaction via comprehensive implementation of `spring boot`, `redis` and `mongoDB` for web service
- Fulfilled the distributed system based on a 4-server platform using `Hadoop`, `HDFS` and `HBase` with group members and became one of the five 1st Prize winning groups in **China University Student Design Competition**

**Book Recommendation System based on book reviews**

**Mar 2018 – Feb 2019**

**Team Leader | National Undergraduate Innovation Training Program | Advisor: [Qizhi Qiu](#)**

- Pre-processed data regarding Chinese text tokenization based on `jieba`, stop words, etc
- Trained word embedding model with `word2vec` based on Chinese Wikipedia corpus (5 million articles) as tag library
- Extracted keywords from “douban” book reviews using `tf-idf` and contributed to the design of tag sets and the algorithm calculating correlation between tag sets
- Developed the system “Shu Yun”, applied for an invention patent(Application No.# 201910109797.1), and approved as a National level project
- Submitted to the 1st “Big Data Innovation” competition and won the 2nd Class Prize