



# JIAQING CHEN

☎ 951-462-3740 ✉ [jchen501@asu.edu](mailto:jchen501@asu.edu)  [linkedin.com/in/jiaqing-chen-b39b7519a](https://www.linkedin.com/in/jiaqing-chen-b39b7519a)  [github.com/Jiaqing-ASU](https://github.com/Jiaqing-ASU)

## Education

---

- Arizona State University** **Jan. 2021 – Present**  
*Phd student in Computer Science, Supervisor: Dr. Ross Maciejewski, GPA: 3.90/4.0* *Tempe, AZ, US*
- University of California, Riverside** **Sep. 2018 – Mar. 2020**  
*Master of Science in Computer Science, Supervisor: Dr. Ahmed Eldawy, GPA: 3.69/4.0* *Riverside, CA, US*
- University of California, Riverside** **Sep. 2017 – Jun. 2018**  
*GPP-E Program Exchange student in Computer Science, Supervisor: Dr. Michalis Faloutsos* *Riverside, CA, US*
- Wuhan University of Technology** **Sep. 2014 – Jun. 2018**  
*Bachelor of Engineering in Computer Sci&Tech, Supervisor: Dr. Yanfen Cheng, GPA: 3.924/5.0* *Wuhan, Hubei, P.R.China*

## Publication

---

- Lixi Zhou, **Jiaqing Chen**, Amitabh Das, Hong Min, Lei Yu, Ming Zhao, and Jia Zou. "Serving Deep Learning Models with Deduplication from Relational Databases." VLDB 2022, PVLDB Volume 15 Issue 10.

## Projects

---

- A Visual Analytics Framework for Diagnosing Model Augmentation** | *JavaScript, Python* **Aug. 2022 – Present**
- Propose visual analysis framework based on multi-model overall structure and multi-model neural network layer.
  - Horizontal visualization analysis framework through 2D random projection loss contours, 3D random projection merge tree structures and model analysis based on Hessian matrix.
  - Pipeline visualization framework from global structure to local structure for deep neural networks.
- Linux ONNX-MLIR Open Mainframe Project** | *C/C++, Python* **Jun. 2022 – Aug. 2022**
- ONNX-MLIR provides compiler technology to transform a valid Open Neural Network Exchange (ONNX) graph into code that implements the graph with minimum runtime support. It implements the ONNX standard and is based on the underlying LLVM/MLIR compiler technology.
  - This project proposes a python toolkit to simplify model conversion to ONNX and provide python APIs to use the ONNX-MLIR model compiler.
  - <https://onnx.ai/onnx-mlir/>
- Decision Forest Inference Comparison from Database** | *C/C++, SQL, Python, Scala* **Jan. 2021 – May 2022**
- Propose an in-database decision forest inference framework.
  - A comprehensive performance comparison.
  - A series of interesting observations that may benefit future database and AI/ML systems design.
  - <https://arxiv.org/abs/2302.04430>
- Serving Deep Learning Models with Deduplication from RDBMS** | *C++, Python* **Jan. 2021 – Apr. 2022**
- Explore the storage optimization for DNN models in RDBMS, with an overall goal of supporting deep learning model serving natively from RDBMS.
  - Propose three synergistic storage optimizations.
  - Implement a system in an object-oriented relational database.
  - <https://arxiv.org/abs/2201.10442>
- Student Advisor Chatbot in IBM Watson** | *Python* **Aug. 2020 - Oct. 2020**
- Provide a front-end logic of the Chatbot with Artificial Intelligence. The back-end and connection operations use Python to implement in Jupyter Notebook, and connects with the front-end through IBM API.
  - Machine Learning and Artificial Intelligence are used in the training of Chatbot. The Chatbot will parse customers' words and sentences during the chat with the user. The most likely intention of users is given by probability analysis from the training model and give the corresponding reply according to the most likely intention.
- Interactive Visualization for Geospatial Data in UCR-STAR** | *Scala, Python, Java* **Jan. 2019 – Mar. 2020**
- Speed up the response time of submitted requests by creating an intermediate cache structure, which keeps small images in memory to save the computation cost of generating these images.
  - Allow users to submit requests to visualize new datasets and it automatically adds it to the system by calling back-end operations.

- Store the dataset information in a NoSQL database, MongoDB, to allow the system to support a large number of datasets and provide datasets' information while the front end sends requests.
- <https://star.cs.ucr.edu/>

### **R'Home Software Development** | *Java, Android Studio*

**Sep. 2017 – Jun. 2018**

- Provide a platform for the Riverside homeless people to give them more convenient life and more intuitive help, working with Riverside government.
- Provide a basic real-time positioning lightweight Android application with some information publishing and query functions using Google API with two Android clients.

### **FindNow Android Platform Software Development** | *Python, Java, Android Studio*

**Dec. 2016 – Jun. 2017**

- A project based on geographic information and big data analysis, which serves people's daily life and is a small part of intelligent urban design.
- Use Java in Android Studio for development. This software system has three Android clients and is dedicated to providing convenient city life. The system integrates the wide range of online shopping platforms and the convenient search of the map.
- The basic functions are realized by calling the API of Baidu map and positioning of system. The database in the background is MySQL.
- Obtain the highest prizes and bonuses in the iSoftStone & Y.E.S Software Programming Competition and the Best Smart City Design Award and a software copyright in P.R. China.

### **Healthband Monitoring Software Development** | *Java, Android Studio*

**Jan. 2016 – Dec. 2016**

- An independent innovation foundation project funded by Ministry of Education of P.R.China.
- Propose an algorithm for judging the fall of human body based on Microsoft bracelet API, which is now applied to many intelligent wearable products based on Android system.
- Use Java in Android Studio for development. Get the data of the bracelet through the Microsoft bracelet API. Through the API of Android system, the APP gets the geographical location, automatically makes phone calls, sends SMS and other functions. The new algorithm is applied in this software.
- Obtain a software copyright in P.R. China and won several awards in different levels of independent innovation foundation project competitions.

## **Scholarships & Awards**

---

- Third-Class Scholarship(**Top 7.8%** in Computer Science)(2017)
- National Scholarship(**Top 1** in Computer Science)(2016)
- First-Class Scholarship(**Top 1.2%** in Computer Science)(2015)
- Excellent League Member(2017)
- Hardworking Advanced Individual(2017)
- Highest Prize in iSoftStone & Y.E.S Software Programming Competition(2017)
- Merit Student (**Top 2%** in Computer Science)(2015,2016)
- Third-class Prize in ACM Programming Contest(2015)

## **Certificate & Specialization**

---

**Certificate:** IBM Data Science Professional Certificate, IBM Applied AI Professional Certificate

**Specialization:** IBM Introduction to Data Science Specialization, IBM Applied Data Science Specialization, IBM AI Foundations for Everyone Specialization

## **Academic Experience**

---

### **Research Assistant in VADER Lab**

*Arizona State University, Supervisor: Dr. Ross Maciejewski*

**Aug. 2022 – Present**

*Tempe, AZ, US*

### **Research Assistant in CACTUS Lab**

*Arizona State University, Supervisor: Dr. Jia Zou*

**Dec. 2020 – Dec 2021**

*Tempe, AZ, US*

### **Research Assistant in Database Lab**

*University of California, Riverside, Supervisor: Dr. Ahmed Eldawy*

**Jan. 2019 – Dec. 2020**

*Riverside, CA, US*

### **Research Assistant in Networks and Communications Lab**

*University of California, Riverside, Supervisor: Dr. Michalis Faloutsos*

**Sep. 2017 – Jun. 2018**

*Riverside, CA, US*

### **Research Assistant in Prof. Yanfen Cheng's Lab**

*Wuhan University of Technology, Supervisor: Dr. Yanfen Cheng*

**Sep. 2015 – Jun. 2018**

*Wuhan, Hubei, P.R.China*