

Biqian Cheng

1136 W Blaine St., Riverside • (323)961-6073 • bchen158@ucr.edu • <https://github.com/BiqianCheng>

EDUCATION

University of California, Riverside

Sept. 2021 – Present

Doctor of Philosophy in Computer Science

Riverside, CA

Related Courses: Software Verification, High Performance Computation, Parallel Algorithm, GPU Programming

University of California, Riverside

Mar. 2019 – Jun. 2021

Bachelor of Science in Computer Science, GPA: 3.7/4.0

Riverside, CA

Related Courses: Data Mining, Statistic, Linear Algebra, Probability, Discrete Mathematics

TECHNICAL KNOWLEDGE

Programming Languages: C++, C, Python, Java, JavaScript, HTML, CSS

Developer Tools: Git, React, Node.js, Material-UI, Jenkins, Spring, Visual Studio Code

PROFESSIONAL EXPERIENCES

Multiview Canonical Correlation Analysis with Entity Alignment

January 2023 – Current

Research Assistant, with Prof. Vagelis Papalexakis and Prof. Jia Chen at UCR

- Joint tensor alignment and factorization into a shared latent space to solve the problem of entity alignment
- Exploit the geometry of common sources in Multiview Canonical Correlation analysis.

Automatic Network Attacks Explorer in Live Servers

July 2021 – Jan. 2023

Research Assistant, with Prof. Manu Sridharan at UCR

- Automate the procedure of detecting bad code patterns that causes Amplification Attacks in servers
- Apply Software Verification to prove that Software will never make excessive use of the network
- Using symbolic execution that produces inputs and traces to discover potential bugs in programs.
- Creating several evaluation programs which contain currently-known network bandwidth bugs.
- Leveraging feedback from produced inputs to keep track of traces to identify code patterns of excessive network bandwidth vulnerabilities.

Android Operating System Kernel patch Propagation

Oct. 2020 – July 2021

Research Assistant, with Prof. Zhiyun Qian at UCR

- Lead the team to build a website that generates the dependency graph based on various selections dynamically.
- Manage the discussion for breakthrough and hold development schedule meetings for group members.
- Present high-level ideas and specification to improve the efficiency in searching the relative vulnerabilities of the Android operating system in various mobile devices.
- Provide the feedback of system design and implementation during Agile development.
- Plan and execute on sprint commitments. Maintain the React project in the existing platforms.

Potential Null Pointer Exception Detector

Sep. 2020 – Sep. 2021

Research Assistant, with Prof. Manu Sridharan at UCR

- Design a framework and develop a software system to automatically extract the potential errors of a programming in the assembly language level.
- Utilize Deductive Program Verification to mathematically reason and derive the equations of the corresponding algorithm on all inputs.

ZTE Corporation Internship

Jun. 2019 – Oct. 2019

Software Engineer Intern

- Constructed the logic implementation for the software platform that can be scaled to 10M users, which is able to improve the page loading and reaction speed by 15% after the implementation Test.
- Developed and maintained React project in existing systems and platforms, and increase the computation and communication efficiency by 15% during the development.
- Designed unit testing components CI/CD tests that reach 99% code coverage and reduces stale deployment potential by 10% using CircleCI and Jenkins.
- Reviewed code and conducted Integration-testing for 3 additional features to increase efficiency by 18%.

ACADEMIC PROJECTS

R'Finder | Python, Elastic-Search, JavaScript, CSS, HTML

Jan. 2021 – Apr. 2021

- Build a website to build connections between faculty members and students for potential researches and jobs.
- Construct the backend server and develop REST API using PostgreSQL and Django.
- Deploy and utilize Amazon EC2 Cloud to provide connection between application and database by REST API.
- Build the crawler to search for the request research/job information from various online resources and develop a parser to recognize and extract the matched information, following the Information Retrieval methods
- Use ElasticSearch to build index for crawled pages.

COVID-19 analysis | JavaScript, CSS, HTML

Sep.2020 – Jan.2021

- Build a full-stack website to simulate and visualize outcomes of cases, death toll during the pandemic.
- Develop code patterns and Utilize extensive knowledge of CS Design patterns such as Composite pattern and Factory pattern for migrating from browser-based application to mobile application.
- Develop Frontend and Backend by using server side render framework NextJs, Material-UI, and ExpressJS.

ACHIEVEMENT & REWARD

- Thomas H. Payne Scholarship in Computer Science
- Dean's Honors List
- Dr. Rose Maris Joyce Scholarship

July 2020

December 2019 – September 2021

January 2018