# Bocheng Cui

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## SKILLS

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|---|---|
| **Programming Languages** | Golang, C, Python, C++, Java |
| **Tools** | Docker, Git, Bash, Mini-net, AWS, Google Cloud, LaTeX, MarkDown, HTML, Conda, R, SQL, Node.js, PHP |
| **Others** | Distributed Systems, Algorithm, Data Structure, Networks, etc |

## EXPERIENCE

**Teaching Assistant**                                                                                   **Aug 2021 — Present**
*University of New Hampshire*                                                                              *Durham, NH*

- Teaching assistant for 1 grad-level course and 1 under-grad level course.
- Creating bash and python scripts to grade student homeworks.
- Generating solutions and sample outputs for coding assignments.
- Using Latex to create/modify assignment descriptions.

**Programming Assistant**                                                                                **Aug 2021 — Present**
*University of New Hampshire*                                                                              *Durham, NH*

- Help students with coding in modern languages like C/ C++ Java, Python.
- Teaching data structures, algorithms, and computer system knowedges.

**CS Grader**                                                                                                **Feb 2021 — May 2021**
*University of New Hampshire*                                                                              *Durham, NH*

- Grading for 3 CS courses(HTML, Computer System, and Java develop)

**Team leader**                                                                                              **Jun 2015 — May 2017**
*Intel China Ltd*                                                                                          *Qingdao, Shandong*

- Leading a college team to participate in the Excellent Student Program and communicating with outer organizations.

## PROJECTS

**Fault tolerance sharded K/V storage system with map reduce**                                            **2021**

- A fault-tolerant K/V storage system that can serve a big chunk of data with low latency.
- Simplified and implemented a Raft protocol.
- Designed and implemented sharding algorithm and shard controler. By default, it would split datas evenly on all edges. User can also decided the location for each shard of data as their need.
- Designed and implemented data migrating algorithm. In my design, during the data migration, servers can still safely work and reply to clients.
- Introduced google map reduce to this system.

**Milestone**                                                                                                **2021**

- A Andorid game developed in Java.
- Users from all over the world can play against each other, or be teamates.

**Extracting Amplicon Reads from a Whole Shotgun Metagenomic Dataset**                                    **2020**

- Designed and implemented a tool for DNA sequencing, and amplicon reads extracting.
- Designing, building, and maintaining the SQLite database.
- Creating interfaces and scripts to link different parts of the application.
- Designing algorithms for sorting and sequencing.

**Peer-to-peer chatting App**                                                                              **2018**

- Designed and implemented an application that allows users to do peer-to-peer chatting directly.
- Provides users with a low latency, high transfering speed chatting experience.
- Protect user's privacy by never collecting user data.

## EDUCATION

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|---|---|
| **Ph.D. in Computer Science**, *University of New Hampshire* | Since 2021 |
| **Master in Computer Science**, *University of New Hampshire* | Since 2018 - 2021 |
| **Bachelor of Material Science**, *Qingdao University of Science & Technology* | 2014 - 2018 |

## ACTIVITIES AND HONORS

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|---|---|
| UNH College of Engineering and Physical Sciences (CEPS) Dean Scholarship | 2018 - 2022 |
| QUST Students Union's VP in charge of New Media Center | 2015 - 2017 |