

Kunli Liu

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EDUCATION

University of Pennsylvania

Philadelphia, PA

Master in Computer and Information Technology GPA: 3.96/4.0

09/2019 - 05/2022

Coursework: Computer Architecture; Operating System; Data Structures and Software Design; Algorithm Design and Analysis; Computer Vision and Computational Photography; Database and Information System; Big Data and Machine Learning

Michigan State University

East Lansing, MI

Ph.D. Candidate in Chemistry GPA: 3.7/4.0

08/2017 - 05/2022

INTERNSHIP

Oracle Corporation

Seattle, WA

Software Engineer Intern

05/2021 - 08/2021

Agile Software Development | **Distributed Systems** | **MicroServices** | **Event-driven Architecture**
Maven | **Cloud Platform Development** | **Hibernate** | **SQL**

- Collaborated in an agile team to improve on Back End system of Oracle Hardware Testing platform for test automation of Oracle Servers
- Implemented RESTful APIs to support in-order and atomic execution for a test group
- Optimized the execution of test groups by switching from polling mechanism to message-driven mechanism
- Significantly reduced network latency between Front End and Back End system for test group executions
- Delivered the software product with an above the expectation rating, completed the software documentation, and presented the product to the user team

PROJECT

Music Search Web Application: Node.js | React.js | AWS | JavaScript

05/2021

- Developed a web application that contains music information based on databases hosted on AWS
- Developed user registration system to support functionalities such as user login, following other users, etc
- Used map API to support search based on geographic information and 3NF for data normalization
- Optimized complex queries and reduced their running time for at least one order of magnitude

EXPERIENCE

Michigan State University

East Lansing, MI

Graduate Teaching Assistant

09/2017 - 05/2020

- Extensive experience as a graduate teaching assistant for various undergraduate courses
- Facilitated group discussion and team work for both recitations and lab sessions
- Contributed to course development by optimizing lab protocol and improving recitation materials

Michigan State University

East Lansing, MI

Graduate Research Assistant

09/2017 - present

- Developed surface-enhanced Raman scattering nanoparticles with **2500x** stronger signal compared with existing commercial nanoparticles (patent pending)
- Developed hyaluronic acid derivatives that is **6.5x** more effective than hyaluronic acid (patent pending)
- Developed novel methodology for targeted gene therapy of hypertension treatment based on nanotechnology (patent pending)

TECHNICAL STRENGTHS

Java, Python, C, AWS, MongoDB, Neo4j, HTML, CSS, JavaScript, Node.js, React.js, Spark, Machine Learning, REST APIs, Maven