Lucy Qu

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EDUCATION

Brown University, B.S. Computer Science GPA: 3.8/4.0 ***Providence, RI | Expected Graduation: May 2022***

- Relevant Courses: Computer Graphics, Computer Vision, Software Engineering, Machine Learning, Intro 3D Computer Animation, Intermediate 3D Computer Animation, UIUX, Algorithms and Data Structures, Object Oriented Programming, Computer Systems, Discrete Structures and Probability, Linear Algebra, Honors Statistical Inference

SKILLS

- Technical: Java (proficient), C++ (proficient), Javascript (proficient), HTML, CSS, Python, C
- Creative: Maya, Adobe Illustrator, Photoshop, Premiere Pro, Final Cut Pro, Lightroom, iMovie

TECHNICAL EXPERIENCE

Google, *Incoming Software Engineering Intern* ***Virtual Internship | May 2021***

Google, *STEP Intern* ***Virtual Internship | May 2020 - August 2020***

- Implemented a predictive search algorithm using serializable trie data structure, dynamic programming, and recursion
- Constructed dynamic graph and implemented Dijkstra's algorithm to rank user results based on degrees of separation
- Designed a scheduled polling feature to surface the top user voted options and populate the group challenge
- Deployed the full stack social network web application using **JS, HTML, CSS,** and **Java Servlets** to Google App Engine
- Integrated Google's Authentication and Charts APIs into a full stack portfolio web application
- Wrote design docs, created intuitive Figma UI mockups, reviewed teammates' code, and wrote JUnit tests with mocking

GivePulse, *Software Engineering Intern* ***Virtual Internship | May 2019 – August 2019***

- Developed support for QR code generator and QR code scanner in **React Native** App to enhance user check-in process
- Added additional pages and features to application and update user interface for iOS app
- Tested application, documented 40+ bugs and improvements on GitHub, and closed 20+ tickets

CS RELATED PROJECTS

Ray, CSCI 1230 Introduction to Computer Graphics - **C++, OpenGL** ***November 2020***

- Implemented recursive ray tracer with reflections, texture mapping, shadows, attenuation, and directional and point lights
- Used implicit equations to find object intersections, and implemented Phong lighting model to render objects on the scene
- Traversed scene graph, processed the data by flattening the tree, and used flyweight design pattern

Maps, CSCI 0320 Introduction to Computer Engineering - **Java, SQL** ***March - April 2020***

- Expanded Dijkstra's algorithm to concurrently build the graph while using A* algorithm to find the shortest path
- Implemented KDTree and used k-nearest algorithm to find neighbors of inputted coordinates.
- Used SQL statements to extract data from large database files and utilized Guava Cache to reduce run time by 95%.
- Focused on design of project, using proxy classes and interfaces, and wrote extensive system and JUnit tests

DishUp, CSCI 0320 Introduction to Computer Engineering - **Java, SQL, React** ***April - May 2020***

- In team of 4, built a food review web application using Java and React deployed to Heroku
- Wrote Java classes for all essential components (reviews, dishes, tags, dietary restrictions, etc.) and related SQL queries (Bayesian mean rating calculation, favorites, and price average), and implemented dish results sorting and filtering
- Created high-fidelity Figma mockup, wrote JUnit tests, and integrated checkstyle

LEADERSHIP EXPERIENCE

Brown University

Head TA for CSCI 0160: Data Structures and Algorithms ***Remote| May 2021***

Undergraduate TA for CSCI 0160: Data Structures and Algorithms ***Providence, RI | January – May 2020***

- Hold weekly office hours that include debugging code and explaining conceptual questions
- Lead two sections weekly consisting of ~10 students each to review material
- Grade homeworks and projects, answer Piazza questions, and hold mentorship meetings with students

Bonner Community Fellowship ***August 2018 – present***

- Most selective and prestigious community service fellowship offered by the Howard R. Swearer Center
- Commit to 6-8 hours of service weekly with local community organization (HousingWorks)

HousingWorks RI at Roger Williams University, *Data Researcher* ***Providence, RI | September 2019 – present***

- Assist development of annual Housing Fact Book by parsing through census data and making calculations using Excel
- Research affordable housing in Rhode Island and its intersectionality with both micro and macro systems