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KAIHAO (PETER) LIU

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[GitHub](#) [Personal Website](#) [Linkedin](#)

SUMMARY

I am a junior-year student at UNC-Chapel Hill. While exploring what I want to pursue in the computer world, I am eager to test my skills in software engineering.

COURSES TAKEN

- Algorithms and Analysis
- Computer Organization
- Data Structures and Analysis
- Files and Databases
- Introduction to Data Models and Inference
- Introduction to Probability
- Methods of Data Analysis
- Models of Languages and Computation
- Modern Web Programming
- Introduction to Machine Learning
- Computational Photography

SKILLS

Programming Languages:

Java, C, Unix, TypeScript, HTML, CSS, JavaScript, MIPS, and Python

Web design related:

React, Vue, Node Js, and JQuery

Database:

SQL, MySQL, MongoDB, and excel

EDUCATION BACKGROUND

University of North Carolina at Chapel Hill

Bachelor of Science in Computer Science, minor in Statistics and Japanese

GPA: 3.93

WORK EXPERIENCE

Intern • Sichuan Neurogin Bio Tektronics Limited • 2021. 06 – 2021.08

- Created a new website for the company using HTML, CSS, and vanilla JavaScript. I am still working remotely with my colleagues to finalize the design.
- Created a tool to preprocess EEG data. The process included file format changing, EOG and ECG feature removal, frequency filter, and a quality evaluation algorithm.
- Participated in regular meetings, including meetings for the board of directors, and reported work progress.
- Participated in data pipeline construction using Spotify's Luigi.

Research Assistant • UNC Chapel Hill • 2021. 02 - NOW

- Working with a Ph.D. student on reconstructing a detailed face model from one input image.
- The face model is based on a learned model using methods of deep learning.
- Also worked on tasks relating to image comparison and face detection.

Learning Assistant • UNC Chapel Hill • 2020. 08 - NOW

- Help the professor with Algorithms and Analysis to make worksheets, homework, and exams.
- Host office hours and help to organize course-related activities for the students.
- Help to maintain the course website, course database, and improve the auto-grading system.

Parttime Assistant • Microsoft CN • 2020. 06 - 2020. 08

- Studied general structure of cloud computing and had hands-on experience of using Azure.
- Worked on tasks related to Microsoft Azure (Mainly worked to help improving User Interface).

Languages:

Mandarin (fluent), English (fluent), Japanese (Intermediate level), and Spanish (beginner level)

Other Related Skills:

MS Office, Adobe Photoshop, Illustrator, Audition, Tinkercad, Fusion 360

Game Testing Intern • Qing You Yi Le Technology CO. • 2017. 07 - 2017. 08

- Learned about the work content of different departments under the guidance of a mentor in a gaming company and tried to use C# and Unity to program and test games.
- Tested for bugs, wrote test logs, and shared opinions in daily meetings for a 3D real-time turn-based card game "Yao Ji OL2."

Gm Assistant • Gainko Design and Mobile Event • 2017. 06 - 2017 .07

- Studied the general structure of a tech firm and the basic concepts of management, helped the general manager to record daily conferences, organized documents and communicated with members of both the NA and Chinese branches.
- Participated in developing the two software (item trading software and donating software for NPO).

PROJECTS**Miao Miao - Social Web App**

- website link: <https://miaomiao-chat.herokuapp.com/>
- With three other teammates in less than five days, developed a social app called "Miao Miao" from scratch using JavaScript, HTML, CSS, and a REST API for the backend. The app is fully deployed and can be accessed from the web anywhere.
- Functionalities including a user-matching system, a live chat, an anonymous post box, and a quiz game
- Did an expo demonstration to the entire class and received a 94 on the whole project.

Self-Study - Social Web App

- website link: <https://master--upbeat-yalow-b67ef2.netlify.app/>
- Personal project developed using React and GraphQL.
- Deployed and accessible from web.
- Functionalities including a Twitter like posting system which enables user to post, like, and comment.

Sushi Restaurant (Java) (GitHub Link)

- Designed a game containing several functions including ingredient selection system, sushi making system, pricing system, price comparison system, spin system (record the purchase and expiration of sushi), ranking system, and AI chefs and AI customers.
- Took 20 hours to complete the game design project. The project was praised by the professor, and I received full credits.

Data Model Projects (Java)

- Programmed linked lists, binary search trees, binary heaps, splay trees, and graphs using Dijkstra's algorithm.
- It took 25 hours to complete the development, and all projects received full credits.

OTHER ACTIVITIES

Club Member • Friendship Association of Chinese Students and Scholars (UNC) • NC • 2018. 08 - 2020. 06

- The main task involved negotiating with local companies for sponsorships and setting up events for sponsors.
- Also helped to set up club events that celebrated Chinese festivals.

Independent Game Developer • Congressional App Challenge • NC • 2017. 11 - 2018. 11

- Participated in the Congressional App Challenge in the district of Congressman David Price.
- As an independent game producer, produced a mini-game simulating fidget spinner.
- Obtained the Certificate of Special Congressional Recognition and won many praises from other contestants.

Volunteer • Shui Jing Gong Neighborhood • Kunming, China • 2017.06 – 2017.08

- Helped to supervise local shops and reinforce them to follow laws covering sanitation and usage of public areas.
- Hosted events for residents in the neighborhood, especially the elderly population.

Bilingual Tourist Guide • Kunming Museum • Kunming, China • 2015. 07 - 2016. 08

- Lectured tourist groups about the history of the city of Kunming from the Qing Dynasty to WWII.
- Hosted more than 100 tourists daily and a total of 3000+ Chinese and foreign tourists over the summer.
- Hosted the overseas donors to donate historical relics such as letters and parts of aircraft.
- Accompanied Chinese and foreign collectors and explained to them the history of Kunming.

School Journal Editor • Raleigh Academy of Chinese Language • North Carolina, USA • 2014. 12-2015. 06

- Wrote articles about Chinese culture, literature, and news reports covering local Chinese communities.
- Articles are printed and pushed to the official WeChat account, with a total of 2000+ readings.
- As the column producer, I was responsible for team formation, content planning, restaurant selection, food shooting and editing, text editing, and writing.
- Responsible for column promotion, creating hot topics and using marketing methods to increase user viscosity.