Yuchen Liu

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EDUCATION BACKGROUND

Fan Gongxiu Honors College, Beijing University of Technology **Sept.2018-Present**

- Major: **Computer Science and Technology**
- Current GPA: **3.71/4.00** Weighted Average Mark (WAM): **87.96/100** Annual Average Mark (AAM): **89.19/100**
- Computer Skills: Proficient in C/C++, python and java; Experience with Matlab, R, HTML, JavaScript, VerilogHDL, etc.

National University of Singapore Winter Vacation Online Academic Course Project **Jan.2021-Feb.2021**

- Data Analysis and Mathematical Statistics Course

INTERNSHIP EXPERIENCE

Beijing ChuangCache Technology Co., LTD (Audio and Video Client Department) **July.2021-Aug.2021**

Android Client Development Engineer

- Responsible for the development of Android client of the company's audio and video products

RESEARCH PROJECT

Software Requirements Analysis Based on Multi-view Microblog Text Mining **Mar.2021-Present**

College Capstone Project; Graduation Project; Will Complete Independently

- Integrated requirement engineering, data mining, and NLP technology, developed a software, based on comprehensive analysis of user needs, provided software developers and the development direction of the next version of the software
- Used social media in the form of microblog to innovatively develop multi-perspective evaluation methods to make the results more comprehensive and balanced
- Used NLP to process the original user language, and used Naive Bayes Classifier and Topic Modeling Algorithm to perform classification processing, and finally conducted comprehensive analysis and multi-perspective evaluation
- Designed the software to crawl network information in real time, automatically updated the software content, followed up with the latest needs of users, and visually presented the analysis results to the developers

Deep Learning Based Panoramic Image Stitching **Dec.2019-Mar.2021**

Beijing University of Technology Spark Fund;

College Keystone Project; Responsible for Feature Point Extraction and Matching and Software Presentation

- Optimized from the original manual algorithm, and improved the speed and memory through the deep learning method to realize the real-time stitching of images, videos and real-time panoramic images, which was innovative and aimed at the current shortage and urgently needs to be solved
- Used deep learning methods to build models, used GNN to extract and match keypoints, and used training sets to monitor keypoints, extract descriptors and other operations for training
- Utilized a homography matrix to splice the extracted feature points, then optimized the edge of the stitching result

A Shared Wearable Smart Medical Bracelet **Nov. 2018-Dec. 2019**

Beijing University of Technology Spark Fund; Partial cooperation with the Biomedical Laboratory of Peking University;

College Cornerstone Project; Responsible for Blood Oxygen and Blood Glucose and Partial Drip Flow Rate

- Cross-field cooperated with the School of Biomedicine, based on single-chip microcomputer, comprehensive bracelet-type medical device that monitors various physiological signs of the human body in real-time
- Programmed and collected data, processed and analyzed physiological signal data, programmed and real-time monitored the flow rate to the detention needle through the deep learning method;
- Completed the client program coding, hardware construction and testing, doctors, patients and family members can monitor the data in real time on the software; ensured accuracy of system by comparing the real medical experiment data

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MAIN COURSE PROJECT

The Influence of Childhood Adversity on the Cerebral Cortex

- Collated the data set of normal adult brain MRI images, including a large number of examples of childhood adversity and no childhood adversity
- Used freesurfer to extract and analyze the data, partitioned the cerebral cortex of each case
- Calculated the average area ratio of the adversity group (abnormal CQT score) and normal group (normal CQT score) of the cerebral cortex, and used the t test to verify the reliability Perform analysis

Campus Smart Healthy Recipe Generation Software (BJUT Health Manager)

- Designed and developed a WeChat applet based on JavaScript that could realize intelligent recipe recommendation, health management and other functions
- Completed development process, and carried out the software overall business logic design, algorithm design, database design and user interface design, and realized ten functions such as positioning and recipe generation
- Designed and developed the front-end and back-end of the program, realized the user end and the management end respectively, and conducted white box and black box testing to continuously improve user experience

Metro Fare Information Table Generation System

- Developed a subway fare information table generation software based on python and HTML
- Automatically calculated the minimum fare information table from the starting station to other stations in Beijing, and displayed the line and subway fare from the starting point to the end in a graphical form information
- Analyzed system requirements, and realized the system design, including functional design, data collection, environment construction and interface design, and completed the system operation and debugging

BJUT Library Management System

- Developed a campus library applet for students, faculty and staff
- Designed the overall business logic of the mini-program and designed the software prototype for testing
- Used MySql to design and build the database of the library management system, established the relationship and E/R model
- Realized user registration, book borrowing and return, book management, order generation and check records functions

Multiplayer Real-Time Scroll Barrage System Based on Arduino

- Developed the system based on Arduino, built a pop-up screen that could be used for multi-person interaction via Wi-Fi
- Allowed users to use mobile phones to send barrage content from the cloud platform to the system and perform multi-color scrolling display, and designed an MP3 module to play songs
- Completed all software design and development and designed the PCB circuit board, independently completed the system including software and hardware

AWARDS & HONORS

• **Social Activities:**	Student Union General Office Department (Minister)	Oct.2019-Oct.2020
	Student Union New Media Department (Officer)	Sept.2018-Sept.2019
• **Awards Info.:**	The 15th National College Student Smart Car Competition, **National Second Prize**	Sept.2020
	IEEEXtreme 14.0 Extreme Programming Competition, about **top 6%** in the world	Jan.2021
	University-level Scholarship	Dec.2020
	College-level Scholarship, about **top 5%** in the college	Dec.2019; Dec.2020
	National College Student Innovation and Entrepreneurship Training Program	Mar.2021-Present