# Zijian Liang

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## EDUCATION

**University of Surrey - BSc Computer Science**                          Sep 2019  - May 2022

- **Classification:** Year 3 (Expected): First Class; Year 2: First Class (Average 81.7); Year 1: First Class (Average 70.1)
- **Modules Included:** Software Engineering Project, Data Structure and Algorithm, Internet of Things, Web and Database System, Artificial Intelligence, Natural Language Processing, etc.
- **Final Year Project / Dissertation:** Hierarchal Recommendation System for Restaurant Business Location Decision-Making in England and Wales: Designed a system using Ruby on Rails and Tableau to cohort user options and preferences of planned restaurant business with factors of supply and demand of market, geo-demographic and business competition and agglomeration approaches of restaurant segments in UK areas (LAD, LSOA) in macro and micro map scopes through data retrieval, analysis, calculation and visualization to provide quantified comparability on successfulness of areas for user restaurant options and insights on their correlations with neighboring featured places.

## PROJECT EXPERIENCE AND LEADERSHIP

**Machine Learning Classification on EEG Movement Imagery (Team Project)**          Mar 2022  - May 2022

- **Abstract:** A Machine Learning project applying Supervised and Contrastive Learning to classify brain activities of different areas through studying the EEG data to be processed by models through feeding in testing data for 64 channels.
- **Responsibility:** Communication with developers from upstream and downstream tasks about research and approach, adapting new designs and modifications to new requirements. Understanding dataset structure, aggregating electrodes according to the brain areas' functionality, segmenting experiment data for each channel, visualizing and stacking all data of the same segment for all channels into Spectrogram and Mel-Spectrogram for further training. Project and outcomes appointed by module leader as a template assignment for others to refer to.

**NLP Chatbot for Airline Travel Bookings (Team Project)**                          Jan 2022  - Apr 2022

- **Abstract:** An NLP project that features a chatbot to understand user intentions and maintain dialogue flow regarding booking air travel tickets, retrieve user information for the bookings and responding with appropriate contents.
- **Responsibility:** Mainly implementing the Intent classification on potential conversation intents brought up by users, which requires dataset for user conversation patterns and responses regarding the topic learnt by models and return matching intents; Name Entity Recognition (supported by Spacy) to extract compulsory user fields from user sentences; Participated in Dialogue Flow Management component to ensure conversations are organized, in scope and have compulsory fields retrieved before a ticket booking task is completed.

**Health Fitness Application (Team Project) - Leader**                          Jan 2021  - May 2021

- **Abstract:** A web application developed by Ruby on Rails to improve user's health state through improving positive daily habits under the COVID-19 background. Applied content-based and collaborative filter to recommend activities to users according to their daily health state filled in to a daily questionnaire generating dynamic scores on user preference fields.
- **Responsibility:** Rotating Scrum master and back-end developer in Agile Scrum SDLC. Regularly maintaining and managing Scrum procedures through breaking down product backlogs, allocating and having sprints be reviewed by the supervisor. Create increment plans or requirements in the sprint backlog corresponding to user stories or expected outcomes from user perspective. Formerly, have the tasks being accomplished with frequent meetings cooperating with other developers to have increments fulfilled. Use of APIs to visualize user's inclination on activity category, recommendation of music (Spotify API) and weather (OpenWeatherMap API) from user's conditions.

**2021 "ICBC Cup" China National Fintech Innovation Competition for College Students - Leader**          Jul 2021  - Sep 2021

- Led the team in analyzing existing social demand on elderly services and the aging society, initiating and developing the business proposal of the "EHui-Smart Elderly Comprehensive Service Financial Cloud Platform" for the ICBC bank.
- Aims to benefit elderly users and expand business demands on the senior-care service market through precise segmented marketing and customized advertisement featuring an elderly-friendly design on user interface and machine learning methodology to study patterns of user segmentation based on their age, salary, residence, etc.
- Qualified to proceed through the city and provincial bank candidacy, nominated to the national level competition.

**Class tutoring assistance in rural areas, Guangdong, China - Volunteer**          Jul 2019  - Sep 2019

Designed contents of 3 courses and lectured 100+ primary school students in special forms (digital technology).

## INTERESTS & SKILLS

**Content Creator (Owner) of a 20K Subscriber Channel**

- Translating and sharing videos on a Chinese video platform Bilibili (20K subscribers, 11.8M views, 390K likes).
- Development of understanding audience requirements for interest on specific contents and awareness on trendy topics.
- Dive into audience requirements for suitable content in terms of technology and trending culture.

**Skills Gained**

- Programming Languages: Python, Java, Ruby and C++
- Web Development Languages and Frameworks: HTML, CSS, JavaScript, Ruby on Rails, Vue (Currently studying)
- Software Experience: Tableau (Data analysis and visualization), VS Code, Blender, Office, Adobe Premiere Pro, PS, Arctime
- Languages: English, Conversational and Written Chinese (Mandarin and Cantonese).