CV

General Information

Full Name Ruoxuan Li

Date of Birth 11th November 2001

Languages English, Mandarin

Education

2023-2024

Master of Science in Data Science

Columbia University, NY, U.S

- Incoming student at CU

2019-2023

Bachelor of Science in Cognitive Science with a specialization in ML and NN

UC San Diego, CA, U.S.

- Minor in CS.
- Major GPA - 4.0 ; Overall GPA - 3.94.
- Relevant courses
  - Data Analysis and Visualization
  - Neural Computation & Machine Learning & Neural Networks
  - Advanced Data Structures & Algorithm Analysis
  - Statistics & Probability & Calculus

Experience

2022 - 2022

Remote Data Scientist Intern

EdgeDevice.AI LLC, Redwood City, CA

- Programmed web scraping script to obtain household information on Zillow and Redfin, developed K-nearest neighbor, and polynomial regression with L1 and L2 regularization to obtain the best algorithm.
- Performed data analysis housing prices while considering seasonality and trend and achieved the MAPE of 0.5 to determine the best investment strategy.
- Utilized PHP to query information from the database to conduct ad-hoc analysis in preparation for future automation development

2022 - 2023

Tutor

UC San Diego, San Diego, CA

- Tutored in CSE 15L - Software tools and Technique and CSE 8A Introduction to Programming and Computational Problem-Solving I course
- Conducted in-person labs, assisting students in grasping fundamental concepts of Python programming such as variables, if conditions, for loops, while loops, etc.
- Held regular office hours to address students' questions and provide guidance on Python programming and basic computer science principles.
- Assessed and graded students' lab reports, providing detailed feedback to help them improve their understanding of software tools and techniques.
- Collaborated with the course instructors in designing and refining weekly programming assignments, ensuring they align with the learning objectives and challenge students appropriately.

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UCSD, San Diego, CA

- Anonymized and cleaned aggregated surveys obtained from previous researchers, ensuring data privacy and confidentiality.
- Performed qualitative and quantitative analysis on the anonymized data.
- Collaborated with the researchers to discuss and refine research objectives, methodologies, and results of multiple projeccts.
- Communicates research progress, challenges, and results effectively through written reports.

2022 - 2022

Instructional Assistant

UC San Diego, San Diego, CA

- Tutored students in a data science and machine learning course, providing guidance and support in understanding and applying key concepts.
- Held weekly office hours to address student questions, clarifications, and provide additional assistance outside of class.
- Managed the nbgrader system, responsible for grading assignments, ensuring fairness and consistency in evaluation.
- Provided guidance and feedback to students on their data science projects, offering insights and suggestions to enhance their understanding and project outcomes.
- Collaborated with instructors and teaching staff to maintain an effective learning environment and contribute to the continuous improvement of the course curriculum.

Projects

2023

Microaggression Intervention Designs

- Invovled in designing multiple Microaggression interventions, including the Microaggression Captcha, Microaggression Garden, and Microaggression Phone Booth, to provide individuals with tools to recognize and respond to microaggressions.
- Built and maintained the Microaggression (MA) website and prototype of Microaggression Captcha for workshop purposes.
- Collaborated with the team to organize and facilitate Microaggression workshops.

2023

Fine-Grained Bird Classification

- Created and deployed custom fine-grained bird classification models self-designed CNN and masked CNN (with background removal) and compared model performances with the pre-trained ResNet-50 model.
- Compared model performance and identified that the masked approach outperformed non-masked models, while ResNet50 achieved the highest accuracy.
- Employed data visualization and deep learning techniques on a complex image dataset and generated a comprehensive written report and a presentation video showcasing the project's methodology and findings.

2023

Hands-Free Dino Jump - EEG-Driven Gameplay with Eyeblinks Using Statistical Learning

- Led a team of 6 members in collecting and preprocessing EEG data using Cyton devices and preprocessed and filtered data to identify patterns related to eyeblinks.
- Designed and applied statistical learning algorithms to detect individuals' unique eyeblink patterns from the EEG data and utilized Simple Voltage Thresholding (SVT) to establish a connection between the EEG signals and a virtual keyboard, enabling users to control the game with their eyeblink patterns.
- Presented the project, highlighting the integration of EEG signals with SVT and statistical learning to create an immersive and hands-free gaming experience for users.

2022

MemoEats - Agile CRUD Web App

- Led a team of 12 members using Agile practices in the development of a CRUD web-based recipe application within a 10-week timeframe.
- Developed a CRUD web-based recipe app that allows users to add, store, view, and edit their recipes.
- Took charge of the overall project supervision, including designing and refining the website layout, conducting meetings, and overseeing UI/UX testing and managed source files, meeting notes, documentations, and Architecture Decision Records (ADRs) within the repository

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- Successfully coordinated the team efforts to deliver a functional and user-friendly CRUD application named "MemorEats".

2023

Fears and Confidence in Introductory CS Courses

- Investigated fears and confidence levels among non-majors in introductory CS courses.
- Analyzed and anonymized aggregated surveys from previous researchers, employing qualitative and quantitative analysis techniques.
- Utilized statistical methodologies to conduct exploratory analysis and generate significant findings for the final research paper.

2022

EEG-Familiarity Prediction

- Replicated and verified the results of a research paper that utilized EEG data to predict subjects' memory recall ability.
- Detected and rectified errors present in the scripts of the previously published paper, ensuring the accuracy of the experimental outcomes.
- Translated MATLAB code into Python scripts and developed object-oriented functions within the Preprocessing-Data class, facilitating generic data preprocessing operations.

Honors and Awards

2022 - NOW

- Member at Phi Beta Kappa

2019 - 2023

- Warren College Provost Honors

Academic Interests

Computing Education and HCI

- Exploring innovative approaches to teaching and learning computer science, with a focus on enhancing student engagement, motivation, and comprehension.
- Investigating human-computer interaction (HCI) design principles and methodologies to create intuitive and user-friendly educational software and interfaces.

Deep Learning

- Researching and developing deep learning models and algorithms for various applications, such as computer vision, natural language processing, and pattern recognition.
- Exploring advanced techniques in deep learning, including generative adversarial networks (GANs), recurrent neural networks (RNNs), and transformers, to push the boundaries of artificial intelligence.

Other Interests

Hobbies: Birding, Hiking, Traveling, Music, Photography, Literature, Movies.

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