Zhiyuan Song

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EDUCATION

University of Virginia
Charlottesville, VA

Double Major: B.A. in Computer Science and Applied Statistics
Aug. 2021 – Dec. 2024

- Overall GPA: 3.894/4.00 | Honor: Dean's List of Distinguished Students; Grad App Fund Scholarship
- Courses: Machine Learning, Autonomous Racing, Database, Software Dev Essentials, Cybersecurity, Discrete Math and Theory, Data Structures and Algorithm, Computer System and Organization, Data Visual and Management
- Technical Skills: Python, Java, C, C#, JavaScript, R, SAS, React, Node.js, Flask, AWS, Docker, SQL, Swift
- Languages: Native in Chinese and Wu/Ningbonese, bilingual proficiency in English

PUBLICATION

Supervised Learning for Health Opportunity Index across States
Barcelona, Spain

Zhiyuan Song*, Zihan Mei, Liran Li, N. Rich Nguyen*
Aug. 2024 – Aug. 2024

Accepted by **<u>KDD-UC 2024</u>**, participated as Student Volunteer and present Poster at the ACM KDD 2024 conference.

ACADEMIC EXPERIENCES

Explaining Clusters of Energy Usage Data Using Auxiliary Information
May 2024 – Present

Summer Research Assistant Intern under Prof. S. S. Ravi
Charlottesville, VA

- Developed tag-based explanations for energy usage clusters using 12+ auxiliary household attributes, enhancing the interpretability of unsupervised machine learning clustering results across large synthetic datasets.
- Refined integer linear programming (ILP) methods with Gurobi Solver to optimize cluster descriptors, validating results with statistical analysis and energy distribution patterns for practical insights.

Xenophobia in Large Language Model
Feb. 2024 – Aug. 2024

Research Assistant under Prof. Madhav Marathe
Charlottesville, VA

- Designed a keyword extraction algorithm using Latent Dirichlet Allocation (LDA) and Natural Language Toolkit (NLTK) to analyze xenophobic stereotypes in large language models, boosting analysis efficiency by 90%.
- Automated the creation of 300 test personas and implemented a scalable execution framework on the Rivanna Virtual Environment, enabling simultaneous analysis across multiple AI models.

CS4774 - Machine Learning
Aug. 2024 – Present

Teaching Assistant under Prof. N. Rich Nguyen
Charlottesville, VA

- Held weekly 3-hour one-on-one office hours and Piazza online Question and Answer during the semester, assisting over 50 students with machine learning concepts and coding assignments, ensuring their academic success.
- Graded assignments and exams for 240 students, monitored exams, co-designed the ChatBot LLM assignment with Prof. Nguyen, and participated in weekly faculty meetings to ensure smooth course operations.

CS 2120 - Discrete Math and Theory
Aug. 2022 – Dec. 2022

Teaching Assistant under Prof. Kevin Sullivan
Charlottesville, VA

- Held weekly office hours assisting over 50 students with discrete math concepts and exam review sessions, contributing to a 99% course pass rate and receiving several thank-you letters from students.
- Graded assignments, quizzes, and exams for 77 students, and collaborated with faculty in weekly meetings to ensure effective course delivery and support.

PROFESSIONAL EXPERIENCE

Fit Lab Start-Up
May 2023 – Dec. 2023

Co-Founder
Shanghai, China

- Led the iOS app front-end development using Swift in Xcode, focusing on user profile and map features. Coordinated back-end integration with Spring Boot Java, ensuring seamless interaction between functionalities.
- Organized weekly team meetings and managing the app launch timeline, overseeing the successful implementation of key features like calorie tracking, workout timers, and community posts.