ZHIYUAN SONG

bfy8kq@virginia.edu

(434) 466-0096

Current Address:
330 Roberta Gwathmey,
Charlottesville, VA 22904

EDUCATION

University of Virginia, Charlottesville, VA

B.A. in Computer Science and B.A in Applied Statistics *Expected December 2024*

- Overall GPA: 3.894/4.00.
- Coursework: Machine Learning, Autonomous Racing, Database, Software Dev Essentials, Cybersecurity, Data Structures and Algorithm, Computer System and Organization, Discrete Math and Theory, and Data Visual and Management.
- Teaching assistant: CS2120 - Discrete Math and Theory | CS4774 – Machine Learning.
- Honor: Dean's List.

SKILLS & INTERESTS

- Skills: Python, React, Node.js, MySQL, Swift, Java, JavaScript, C, R, SAS, HTML, CSS, PyTorch, Final Cut Pro X, Logic Pro.
- Languages: Native in Chinese, bilingual proficiency in English.
- Interests: Film-editing, Photography, Hip-hop music, Fashion, and Basketball.

PROFESSIONAL EXPERIENCE

Supervised Learning for Health Opportunity Index across states, *KDD-UC 2024, Barcelona, Spain*

Research Assistant with Prof. N. Rich Nguyen *February 2024 – May 2024*

- Simplified the computation of the Health Opportunity Index (HOI) by developing a Random Forest model, enabling predictions across all 50 U.S. states using readily available ACS data.
- Designed a machine learning based Policy Framework to assist public health officials in optimizing resource allocation, presented at the KDD-UC 2024 conference, highlighting its application in addressing health disparities.

Xenophobia in Large Language Model, *Biocomplexity Institute, Charlottesville, VA*

Research Assistant with Prof. Madhav Marathe *February 2024 - Present*

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

Explaining Clusters of Energy Usage Data Using Auxiliary Information, *C4GC Summer Internship, Charlottesville, VA*

Summer Research Intern with Prof. S. S. Ravi *May 2024 - Present*

- Developed tag-based explanations for energy usage clusters using auxiliary household attributes, improving interpretability and applicability of clustering results across large datasets.
- Refined integer linear programming (ILP) methods to optimize cluster descriptors, validating results with statistical analysis and energy distribution patterns to ensure accuracy and practical insights.

Teaching Assistant, *University of Virginia, Charlottesville, VA*

Machine Learning (CS4774) *August 2024 - Present*

- Held weekly office hours, assisting over 30 students in mastering machine learning concepts and coding assignments.
- Graded assignments for 240 students and participated in weekly meetings with faculty and colleagues to ensure course success.

Teaching Assistant, *University of Virginia, Charlottesville, VA*

Discrete Math and Theory (CS2120) *August 2022 - January 2023*

- Conducted weekly office hours, assisting 50 students with discrete math concepts and review sessions, contributing to a 99% course pass rate.
- Graded assignments, quizzes, and exams for 77 students while collaborating with faculty and peers in weekly meetings.

PROJECT INVOLVEMENT

Fit Lab start-up, *Ningbo, China*

Co-founder and Software Engineer *May 2023 – May 2024*

- Led the development of the iOS application's front-end using Swift in Xcode, focusing on user profile and map functionality, leveraging Ali Yun Server and Google Maps API.
- Coordinated back-end integration using Spring Boot Java, managing team meetings and overseeing the application launch timeline to ensure smooth execution.