JIAHUI ZHANG

Tel:(510)-314-6132 | Email: jiahui9923@gmail.com | Address: 767 Denali Way, Charlottesville, VA 22903

EDUCATION

University of Virginia **Charlottesville, VA, USA**
Master of Computer Sciences *08/2023-Present*
GPA: 3.8/4.0;

Portland State University **Portland, OR, USA**
Bachelor of Sciences in Computer Science 09/2019-12/2022
GPA:3.9/4.0; Honors: President's List Quarter Spring 2020/Winter 2021; Dean's list Quarter Winter 2022

Changchun University of Technology **Changchun, China**
Bachelor of Sciences in Computer Science and Information 09/2018-06/2020
GPA:3.44/4.0; Honors: Second Prize of Blue Bridge Cup National Software and Information Tech Professional Talent Competition

Relevant Courses: *Reinforcement Learning, Learning in Robotics; Algorithms&Complexity; Human-Computer Interaction; Machine Learning, Natural Language Processing, 3D Computer Vision; Data Engineering, Intro to Database Management Systems*

WORK EXPERIENCE

Human Resources Database engineer Intern, **China Life Insurance Inc (Henan Branch).,** Zhengzhou, CN 08/2021-10/2021

- Built and improved automatic pay stub and personnel attendance system and helped to conduct an automatic reports generator
- Initiated and completed more than 20 preliminary screening interviews and generated an interview question database
- Helped to analyze salary questionnaires data and interview survey data; managed and input data into the ERP software; Updated recruitment information to the database and maintained the system

ACADEMIC AND RESEARCH EXPERIENCE

Member, **Multi-Frame Transformer for Indoor 3D Object Detection and Scene Reconstruction** **Mar. 2025 – Present**

- Developed a multi-frame transformer framework that extends Cubify Anything's single-image 3D object detection to multi-view RGB-D sequences on the CA-1M indoor dataset.
    - Designed cross-frame temporal attention module to aggregate features across multiple viewpoints, enhancing 3D bounding box stability and reducing localization jitter in long video sequences
    - Implemented geometry-grounded cross-attention layers enforcing multi-view consistency constraints to jointly optimize camera pose estimation, depth map refinement, and 3D object localization

Member, **Unified Transformer Framework for 3D Tree Segmentation** **Dec. 2024 – Mar. 2025**

- Independently developed a unified transformer-based model for simultaneous semantic and instance segmentation of forest point clouds, adapting the OneFormer3D architecture to forestry applications on the FORInstance dataset.
    - Implemented superpoint pooling, dynamic query selection, and Hungarian-based instance matching to enhance detection of complex tree structures and understory vegetation
    - Built end-to-end data pipeline including point cloud preprocessing, voxelization, superpoint generation, patch-based batching, and comprehensive evaluation metrics (instance-level IoU, F1, PQ scores)

Member, **Video Conference and Whiteboard platform project,** Portland, OR **Feb. 2022**

- Developed a platform to realize the multi-person real-time whiteboard meeting, including features like video/voice meetings and whiteboard sharing.
    - Built an interactive whiteboard via React enables functions like multi-person drawing, dynamic shapes, and automotive uploading
    - Involved in the progress of designing voice and video conference systems and ensured the recording feature could record conferences and upload them to the database efficiently

Leader, **C-Tran Portland public transportation API Project,** Portland, OR **April 2022**

- Collected Portland Transportation data from several websites and transformed data formats and input into the database;
- Cleaned and integrated data to Apache Kafka to transform and validate datasets.
- Used the API tools to visualize the C-Tran's route heatmap through Mapbox GL JS.
- Made recommendations to the Portland Public transportation office by analyzing transportation performance's efficiency and effectiveness.

Team Leader, **On-Campus food delivery App Project,** Changchun, CN **Sept. 2018**

- Coordinated project shareholders to develop an on-campus food delivery application in order to convenient students' life and participated in the China "Internet+" college students' innovation and entrepreneurship competition.
- Leveraged GitHub for team coordination action, organized team meetings with shareholders
- Designed the application's function and API and developed a mobile application, mainly the backend in SQL for data storage logic.