Yun Zhang

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EDUCATION

University of California, Los Angeles (UCLA) ***Sep.2021-Expected Jun. 2025***

B.S. in ***Computational Mathematics*** *and B.S. in* ***Statistics and Data Science***

Cumulative GPA: 3.823/4.0 **Honor:** Dean's Honors List for Fall 2021/Winter/Spring/Fall 2022, Winter/Spring 2023

PUBLICATION

1. Co-first author, ***Analysis of Multi-Camera and LiDAR Sensor Placement at Intersections: Evaluating Configurations Under Varied Scenarios and Weather Conditions Using Surrogate Metrics,*** will be submitted in Sept. 2024 to ICRA
2. Second Author, ***Expanding the Utility of PyHFO: Lightweight Deep Learning-powered End-to-End High-Frequency Oscillations Analysis Application***, will be submit in Dec. 2024 to the Journal of Neural Engineering
3. Second author, **Optimization** ***Strategies for Sensor Placement in Multi-Camera and LiDAR-Camera Systems at Intersections: Tools, Models, and Adversarial Scene Enhancements,*** will be submitted in Dec. 2024 to RA-L
4. Fourth Author, ***Transforming Political Campaigns: The Impact of AI-Generated Personalized Emails on Voter Behavior,*** submitted to American Political Science

RESEARCH EXPERIENCE

Mobility Lab, UCLA | Research Assistant, *advised by Professor Jiaqi Ma* *Mar. 2023 - Present*

- Utilized CARLA, OPENCDA, and ScenarioRunner for the Analysis of Multi-camera sensor configuration at smart intersections, including BEVFormer, SparseBEV, SOLOFusion, and our model
- Conducted scenario design, database creation, and relationship analysis of multi-liDAR camera sensors configuration.
- Participating in the U.S. DOT Intersection Safety Challenge and designed the trajectory modification tool for the manual improvement of road user and vehicle trajectories as an intermediate step between detection and prediction.

Vwani Roychowdhury's Lab, UCLA | Research Assistant, *advised by PhD Yuanyi Ding* *Feb. 2023 - Present*

- Contributed to the implementation and deep learning models of Hilbert (HIL) detector of PyHFO, a multi-window desktop application providing time-efficient HFO detection algorithms for artifact and HFO with spike classification.
- Reduced the detection run-time by 50 times compared to state-of-the-art with comparative study to ensure correctness.

HKU Summer Research Program| Researcher*, advised by Professor Liangqiong Qu* *2024 Summer*

- Leveraged Large Language Models (MiniGPT-4) for multi-modality brain tumor segmentation, integrating four distinct MRI modalities (T1c, T1w, T2c, and FLAIR) onto a common space to enhance segmentation accuracy.
- Awarded Best Presenter and received a PhD offer with a Presidential Scholarship.

SELECTED PROJECTS

WhiteMatterWiki: Carmichael Lab, Neurology Department, UCLA | Main Developer *June2023-Dec. 2023*

- Developed a web app using Node.js, React, AWS, and MongoDB, enabling users to search and filter the lab's database with graphs and visualize intricate relationships among ligands, receptors, and cells
- Utilized Java and R to create captivating animations and circus graphs, effectively illustrating complex data connections and presenting the lab's overall results. Deployed by AWS

MatchU: A Dating app focuses on all UC students | Main Developer *Jan.2023 - Mar. 2023*

- Developed user authentication and profile creation and management features.
- Implemented an algorithm-based recommendation system for seamless matching between users
- Incorporated search, comment, personalized recommendation, and customizable filtering functionalities

WORK

Office of Palo Alto Councilmember Greg Tanaka | AI/Data Analyst Intern *June 2023 - Dec. 2023*

- Analyzed voter data from public social media, HubSpot, and voter profiles within a California congressional district, identifying trends and developing predictive models to anticipate voting behavior
- Utilized LLMs to generate personalized campaign emails and campaign services, increasing efficiency

Uber, Hong Kong | Data Analysis Intern *Dec. 2022 - March 2023*

- Participated in the facial mask recognition project during the COVID-19 pandemic for backend utilities
- Performed in-depth analysis and demand forecasting for Uber's regional operations, evaluating the influence of factors such as humidity, wind, time of day, as well as origin and destination

TECHNICAL SKILLS

Programming Languages: Python, C++, JavaScript, C#, R, LaTeX, OpenSCENARIO Documentation,
Tools/Tech: React, Pytorch, OpenCDA, CARLA, Git, Tableau, HTML, CSS, Node.js, Shell, Elisp, MATLAB