CURRICULUM VITAE

Ruipu Li ◇ UMID: 94023636 ◇ Program: Computer Science & Engineering Ph.D.

EDUCATION

University of Michigan — Ann Arbor *August 2022 - April 2024*
M.S.E in Computer Science

University of Michigan — Ann Arbor *August 2020 - April 2022*
B.S in Computer Science

Shanghai Jiao Tong University *August 2018 - August 2022*
B.S in Electrical and Computer Engineering

University of Adelaide *January 2020 - March 2020*
Study Abroad Program

RESEARCH EXPERIENCE

Research Assistant, University of Michigan, College of Engineering *August 2022 - Present*
A Machine-Learning Approach to Reduce Uncertainty in Climate Forcing by Aerosols
- Process satellite data using interpolation
- Use Pearson's correlation coefficient and principal component analysis (PCA) to combine variables
- Apply multiple machine learning methods to predict aerosol optical depth and droplop number
- Evaluate feature importance using forward selection, backward elimination and shaply additive explanation (SHAP)

Collaboration with Professor Alexander Rodríguez *July 2023 - Present*
Uncertainty quantification in time series forecasting
- Develop a conformal prediction method for time series forecasting to improve adaptivity and monotonicity
- Develop and deploy time series forecasting models
- Submit predictions to a forecasting program hosted by the Centers for Disease Control and Prevention (CDC)

INTERNSHIP

NIO, Autonomous Driving System, Feature Development Department *May 2021 - August 2021*
Machine Learning Intern
- Created a dataset from road test records
- Optimized lane changing decision in autonomous driving using a long short-term memory (LSTM) model
- Wrote Python toolkit for road test and integrated Google Test framework into feature-app project

PROJECTS (SELECTED)

Sentiment Analysis on Twitter: Affective Keywords Visualization *November 2022 - December 2022*
Final Project in Natural Language Processing (EECS 595)
- Applied Bert and RoBERTa in sentiment analysis
- Explained the prediction made by the models using shap

De-smearing of Point Cloud using Deep Learning *September 2021 - December 2021*
Final Project in Machine Learning (EECS 545)
- Proposed an unsupervised loss function in 3D point cloud de-smearing
- Integrated the loss function with a manifold learning strategy

Grayscale Image Coloring with Generative Adversarial Network *April 2021 - May 2021*
Final Project in Computer Vision (EECS 442)
- Implemented a generative adversarial network for image coloring based

Educational Programming Game with a Graphic Interface *September 2019 - October 2020*
Undergraduate Research Program in Shanghai Jiao Tong University

- Designed and implemented a graphic programming interface in Unity
- Constructed the game scene and implemented part of the game animation in Unity

HONORS

- Graduated *summa cum laude* *April 2022*
- Received Dean's List every semester *August 2020 - April 2022*
- Shanghai Jiao Tong University Virtual Reality Competition Third Prize *January 2021*
- 2018-2019 Undergraduate Excellent Scholarship in Shanghai Jiao Tong University *November 2019*
- John Wu and Jane Sun Excellence Scholarship (Top 3%) *September 2018*

EXPERIENCE

Shanghai Jiao Tong University Virtual Reality Competition *December 2019 - January 2020*
Team Member
- Constructed game scenes and bind controller to Oculus components
- Implemented a virtual reality version of Sokoban

Game Design With Ylands *September 2019 - December 2019*
Teaching Assistant
- Assisted two instructors addressing lectures
- Reviewed student projects

Virtual Reality Club of Shanghai Jiao Tong University *October 2018 - October 2019*
Head of Technology Department
- Taught club members the basics of game development with Unity
- Participated in game development projects with club members

SKILLS

Programming language: C, C++, C#, Python, JavaScript, Go, Rust
Other technical skills: Familiar with Great Lakes cluster, Google Cloud Platform