Isabella (Lanxin) LIU

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EDUCATION

University of California, San Diego   *Masters in Computer Science*

Selected courses: Computer Graphics(A+), Machine Learning Meets Geometry (A+), Search and Optimization (A+), Discrete Differential Geometry(A+) | GPA: 4.0 / 4.0

University of Illinois at Urbana-Champaign   *Bachelor of Science in Computer Science and Statistics*

Selected courses: Algorithms, Data Mining, Statistical Computing | GPA: 3.72 / 4.0

RESEARCH EXPERIENCE

Close Sim2Real Domain Gap in Active Stereo System   Apr. 2021 – Present

Supervisor: Prof. Hao Su, UCSD

- Designed a novel way to extract projected IR patterns from image sequences as well as patch-wise reprojection loss on the patterns
- Combined self-supervised learning in the real domain with supervised learning in the simulation domain
- Our method outperforms state-of-the-art learning-based stereo methods as well as commercial depth sensors

Misinformation Detection and Adversarial Attack Cost Analysis in Directional Social Networks   Jul. 2019 – Oct. 2019

Supervisor: Prof. Tarek Abdelzaher, UIUC

- Developed an adversarial attack model to strike the fake account detecting models for social media. Attacked the models by injecting adversarial samples to the data, in which the fake account's features are close to the honest user's
- The proposed detecting model applied adversarial attack analysis and outperformed existing state-of-the-art methods

Distinguish Last Mile Problem in City of Chicago   Mar. 2019 – Aug. 2019

Supervisor: Prof. Brian Deal, UIUC

- Built a graph model to effectively assess people's reachability to popular destinations in the city
- Adapted the K-D tree algorithm to perform a 3D Nearest Neighbor Search (NNS) using geo-coordinate data, speed up the searching execution time by 170 %

PUBLICATION

- **Isabella Liu**, Edward Yang, Jianyu Tao, Rui Chen, Xiaoshuai Zhang, Qing Ran, Zhu Liu, Hao Su. ActiveZero: Mixed Domain Learning for Active Stereovision with Zero Annotation, Submitted to *2022 IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*. [Arxiv]

RELATIVE ACTIVITIES

Top-15 presenting team in Illini Datathon 2019, UIUC   Mar. 2019

- Built a RNN model to predict the daily stock price for Bayer, Honeywell, 3M, and Synchrony, achieved high accuracy (rank 15 / 75)
- Innovatively introduced sentimental analysis into the prediction model, collected relevant tweets from Twitter API, and used the positive index of tweets towards different brands in each day as a part of the input of the RNN model

Game Jam 2018, Perfect World Co., Ltd., Shanghai, CH   Jul. 2018

- Hackathon for game development. Designed and developed a video game within 36 hours. Presented in the final showcase
- Worked as game engineer, collaborated with designer and modeler in a team of six people

AWARDS

- Dean's List (for each semester)
- Honor James Scholar   Aug. 2018