Gonglin Chen

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Education

University of Southern California — Los Angeles, California
PhD in Computer Science — *Sep 2024 – Present*

University of Southern California — Los Angeles, California
M.S. in Applied Data Science; ***Cumulative GPA: 3.76/4.00*** — *Jan 2023 – Jun 2024*

University of California, Davis — Davis, California
B.S. in Statistics, Machine Learning; ***Cumulative GPA: 3.73/4.00*** — *Sep 2017 – Jun 2022*

Research Interests

Computer Vision, Computer Graphics, Machine Learning.

Subtopics include: Feature Matching, 3D Reconstruction, Object Detection, Neural Fields, Image synthesis, 3D Modeling.

Publications

Zhiyuan Gao, Wenbin Teng, ***Gonglin Chen***, Jinsen Wu, Ningli Xu, Rongjun Qin, Andrew Feng, and Yajie Zhao, "Skyeyes: Ground Roaming using Aerial View Images", axriv preprint, 2024.

Gonglin Chen, Jinsen Wu, Wenbin Teng, Zhiyuan Gao, Andrew Feng, Rongjun Qin, and Yajie Zhao, "Geometry-aware Feature Matching for Large-Scale Structure from Motion", axriv preprint, 2024.

Zitong Zhao, ***Gonglin Chen***, Reza Vatan Meidanshahi, and Gergely T. Zimányi, "Machine Learning-based defect identification method at the c-Si/a-Si:H interface", in Proceedings of the 50th IEEE Photovoltaic Specialists Conference, 2023.

Research Experiences

USC Institute for Creative Technologies, Vision & Graphics Lab — Los Angeles, California
Research Assistant — *Jun 2023 – Present*

- Lead the research project on feature matching for Structure from Motion Reconstruction.
- Participated in several research projects related to diffusion models, NeRF and 3D gaussian splatting.

University of California, Davis, Zimanyi Research Group — Davis, California
Undergraduate Research Assistant — *Jan 2022 – Jun 2022*

- Designed and trained models that can predicts whether electronic orbits get localized on a given atom using ***TensorFlow***, and conducted experiments to evaluate their performance. The work has been published.
- Developed feature engineering scripts using for data cleaning and feature engineering.

University of California, Davis, Helen Dalhke Lab — Davis, California
Undergraduate Research Assistant — *Dec 2019 – Mar 2020*

- Collected and analyzed data from climate monitoring stations for the past 30 years in central California to prove and visualize climate change in California using ***R***.
- Conducted statistical analysis using methods such as the Mann-Kendall Trend test and Time series analysis; interpreted the statistical results which were adopted for public education on climate-related issues.
- Visualized the data using ***ggplot2***, creating clear and informative graphs that helped to illustrate patterns and trends in the data.

Industrial Experience

Newland (000997, SZ), Department of AI Research & Development Fuzhou, Fujian, China
AI Engineer Intern *Dec 2020 – Mar 2021*

- Worked collaboratively with other engineers in the Department of AI Research & Development; participated on multiple ***computer vision*** projects on object detection.
- Implemented YOLOv3's output layer from scratch using python, enabling local testing and reducing the time required for fine-tuning.
- Trained and deployed 4 models for demonstration purposes at the Fourth Digital China Summit; using ***Caffe*** framework for training the model and ***Docker*** for deployment.

Jeeshow Technology Pty Ltd. Fuzhou, Fujian, China
Web Development Intern *Jun 2018 – Aug 2018*

- Developed a web application that allowed service workers to check their orders and receive payments, reducing workers' time in obtaining orders.
- Collaborated with an intern and 2 engineers on the development of the application using Git.

Skills

Programming Language: Java, Python, MATLAB, R, JavaScript
Skills: HDFS, Spark, MongoDB, Git, Linux, Docker, AWS, TensorFlow, PyTorch, Firebase
Languages: Mandarin (Native), English (Professional)