Gonglin Chen

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Education

University of Southern California — Los Angeles, California
M.S. in Applied Data Science; ***Cumulative GPA: 3.8/4.00*** — *Jan 2023 – Jun 2024 (Expected)*

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, Computational Photography, Computer Graphics, Machine Learning.

Subtopics include: Feature Matching, 3D Reconstruction, Object Detection, Neural Fields, image synthesis, 3D Modeling, Strucute from Motion.

Publications

Gonglin, Chen, Jinsen Wu, Wenbin Teng, Zhiyuan Gao, Andrew Feng, Rongjun Qin, and Yajie Zhao, "GeoAmplifier: Feature Matching Enhancement through Geometry-Aware Optimization".

Zhao, Zitong, ***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 2022 – Present*

- Designed and implemented *GeoAmplifier* using ***PyTorch***, based on transformer architecture for feature matching. The work is still under review.
- Integrated *GeoAmplifier* with COLMAP for SfM reconstruction, leading to better camera poses and much denser reconstructed point cloud.
- Designed and implemented a reconstruction tool with WebUI.

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, including smart store, garbage classification, and facial recognition.
- Implemented YOLOv3's output layer, enabling local testing and reducing the time required for fine-tuning.
- Individually 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.
- Collectively prototyped existing projects using ***TensorFlow*** for updating our products.

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)