Wenxiao (Russell) Cai

Phone: (+86)180 5196 4139 and +1 (347) 904-2898   Email: wxcai@seu.edu.cn
Website:https://russrobin.github.io   Addr: Wolonghu Town, Nanjing

EDUCATION

Southeast University (SEU), Nanjing, China   Sep 2020 – June 2024
B.S. in Engineering, Automation (in progress)   GPA 3.94/4 RANK 1/112

University of California, San Diego (UCSD), San Diego, United States   Mar 2023 – August 2023
Exchange Student (in progress)

Honors:
- Presidential Scholarship | SEU   • Perfection Student Scholarship, twice, 2021 and 2022 | SEU
- University-level Merit Student | SEU   • CUPT First Prize in East China
- Presidential Scholarship | High School Affiliated to Nanjing Normal Univerisity

Related Coursework:
- Artificial Intelligence   • Optimization   • Data Structure   • Algebra and Geometry   • Numerical Computing Methods
- Application of Data Science (UCSD)   • Machine Learning with R (UCLA)   • Linear Control System (SEU & UCSD)
- Signal Processing   • Microcomputer   • MATLAB and Control System Simulation

Services:
President of SEU LabVIEW Club

PUBLICATIONS

UAV Image Stitching by Estimating Orthographic Projection with RGB Cameras
Wenxiao Cai, Songlin Du, and Wankou Yang
Journal of Visual Communication and Image Representation
VDD: Varied Drone Dataset for Semantic Segmentation
Wenxiao Cai, Ke Jin, Jinyan Hou, Cong Guo, Letian Wu, Wankou Yang
Under review in ICCV 2023

RESEARCH EXPERIENCES

Student researcher of computer vision at OneCoLab   **SEU** | July 2021 – Present

- Worked with Prof. Wankou Yang on drone image processing, proposing to use semantic information for multiple image tasks.
- Designed a novel method for low-altitude drone image stitching aided by semantic information.
- Collected and annotated a high-resolution drone image dataset for semantic segmentation. Designed a deep-learning baseline model for this dataset.
- Applied algorithms in interactive segmentation and instance segmentation of point clouds.

Visiting student researcher in Pengtao Xie's team   **UCSD** | Mar 2023 – August 2023

- Worked with Prof. Pengtao Xie on unsupervised semantic segmentation and bi-level optimization.

COURSE PROJECTS

Article key sentence extraction algorithm & software   **SEU** | Jan 2021 – June 2021

- Designed a machine learning algorithm based on AP, Kmeans and mean-shift to extract key sentences from articles.
- Developed a pyqt-based software with full file reading, language processing and parameters setting functions.

Packing problem algorithm in industrial applications   **SEU** | July 2021 – Sep 2021

- Designed a novel algorithm to solve NP-hard packing problems.
- Developed a software of processing and 3D display of packing problems, and applied it to a local factory.

Optimization of AGV scheduling problem   **SEU** | Sep 2021 – Jan 2022

- Built a model for, simulated and visualized Aumotated Guided Vehicles (AGV) operations in logistics factories with Matlab Simulink.
- Optimized the problem in limited conditions.

Skills

- Programming Languages: Python, C++, Matlab, R, Assembly
- Languages: English - Fluent(TOEFL 108, GRE 330), Mandarin - Native speaker