# 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

## 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