

# Junhua Huang

1-585-286-7948 | junhuahuang1218@gmail.com | Rochester, NY | [www.linkedin.com/in/junhua-huang/](https://www.linkedin.com/in/junhua-huang/)

## EDUCATION

### University of Rochester

Rochester, NY

BS in Computer Science, BS in Business, Cluster in Studio Art

Anticipated May 2025

- GPA 3.85 out of 4.00, Dean's list 6/6 semesters
- Undergraduate research scholarship-Schwartz Discover Grant 2022
- Co-founder and treasurer of The ACM Chapter of the University of Rochester

## LEADERSHIP

### ACM student Chapter, U of R Computer Science Undergraduate Council

Rochester, NY

Treasurer

Feb 2024 – Present

- Managed financial operations as Treasurer, overseeing budgeting, fundraising, and financial reporting for the ACM Student Chapter and the University of Rochester Computer Science Undergraduate Council.
- Coordinated logistics for activities and workshops, ensuring smooth execution and alignment with chapter goals.
- Handled food procurement for events, balancing dietary preferences and budget constraints to enhance participant experience.

### University of Rochester Computer Science Department

Rochester, NY

Teaching Assistant & workshop Leader - CSC 172 Data Structures and Algorithms

Aug 2023 – May 2024

Workshop Leader - CSC 171 Introduction to Computer Science

Dec 2022 – May 2023

- Led weekly seminar workshops with Java and facilitated student discussions, sharpening students' understanding of course materials through collaborative problem-solving and discussion of materials.
- Conduct a pedagogical research project to determine whether extending office hours before and/or after workshops could enhance students' understanding and academic performance.
- Provided regular feedback to professors to improve course design and learning materials.
- Collaborated in the 'Team Learning in Action' project, providing key participant data and insights to support an NSF research initiative.

## ENGINEERING EXPERIENCE

### Farsee2

Wuhan, China

Machine Learning Internship

July 2024 – Sep 2024

- Designed two innovative methods to reduce the floating component in digital reconstruction models by 40%, using ground truth depth to minimize loss, under the mentorship of PhD Hailong Pan.
- Developed a customizable generation method for parallel computing across multiple machines, enhancing computational efficiency.
- Contributed to the upgrading of the new core algorithm of digital reconstruction software.

### Goergen Institute for Data Science, University of Rochester

Rochester, NY

Research Assistant

Jan 2024- Present

- Conducted research on generative fairness and bias in large language models (LLMs) within the context of political ideology.
- Developed methods for calculating and evaluating political ideologies to conduct blind testing on LLMs.
- Automated the data collection process using Python and an API, and optimized the looping method by applying an automation convergence algorithm to save on resource consumption.
- Built and maintained a comprehensive database of ideology topics and their evaluations, containing over 140,000 entries.

### Professor Chengliang Xu's lab, U of R Computer Science

Rochester, NY

Researcher

May 2024 - Present

- Developed a new computer vision model for TAL by implementing an end-to-end solution using Mamba.
- Mentor by Researcher Pinxin Liu to deploy, test, and improve various machine learning tasks; successfully ran and tested related paper codes on Linux servers.

- Modified the ViT model to a Transformer++ structure and improved the previous model's backbone, making it more suitable for testing and debugging new functionalities by the team.

## **Wuhan Jingying Haitao Information Technology Co., Ltd**

**Wuhan, China**

*Technical Assistant*

*Jun 2023 – May 2024*

- Created a biomedical patent database using MySQL to support Dr. Conjing Ran and Ph.D. Shengshen Liu's research group.
- Improved data collection efficiency by 20% by building an automated web crawler script in Python.
- Collected and labeled 18,000+ entries as sample data for the LLM model, and deploy as a chatbot.
- Utilized Lucidchart to design Entity Relationship Diagrams(ERDs), encompassing 100+ keys and attributes, to optimize data visualization and management.

## **Digital reconstruction of James Town, University of Rochester**

**Rochester, NY**

*Research Assistant*

*May 2022 – Dec 2022*

- Collaborated with Dr. Zhu, Dr. Jarvis, and team members on a project to digitally reconstruct the Jamestown Settlement and Elmina Castle using low-cost image-based 3-D Virtual Reality reconstruction and modeling techniques.
- Disseminated high-resolution models into similar visual effects, low-space-cost models that could be run in virtual reality environments.
- Utilized software such as Agisoft Metashape and Unity to create detailed 3D models. Conducted screening, cleaning, and restoration of raw image data for 3D modeling and virtual reality applications.
- The average model file size is reduced by 2000 times. Utilized software such as Agisoft Metashape, and Adobe Photoshop to repair overlapping virtual camera angles, manually cleaned up interfering point clouds, and repaired shadows, lighting, and surface materials.

## **Course PROJECTS**

### **IMDB Database**

*Aug 2023-Dec 2023*

- Led a team of three in ensuring database compliance and enhanced security, focusing on testing, compatibility assessment, and debugging to prevent injection attacks.
- Implemented a login system and customized functions for CRUD operations based on user type using JavaScript, PHP, MySQL, HTML, Git, and CSS; redesigned the website UI and database security feature.

### **Body Signals Analysis of Smoking and Drinking**

*Sep 2023-Dec 2023*

- Preprocessed over 900k records by selecting relevant attributes through feature engineering and reducing dimensionality with Principal Component Analysis (PCA).
- Developed NLP machine learning models with 72-81% accuracy for predicting the impact of smoking and drinking on body signals using SVM, XGBoost, and PCS techniques; visualized data trends using Seaborn and Matplotlib to enhance understanding of behavioral patterns.

### **Bob's Burgers App Project**

*JAN 2023-May2023*

- Solo-developed the Android app, demonstrating proficiency in RecyclerView, API integration, and MVVM architecture, and effective end-to-end app development management.
- Ensured robust app functionality by implementing error handling for invalid API requests, contributing to a seamless user experience.
- Designed a user-friendly interface with attention to color aesthetics and smooth animations, enhancing user engagement and accessibility.

### **OpenJDK**

- Write a step-by-step installation guide in Github In for deploying the JDK for Linux local testing test.
- Testing for the three pull requests is accepted and merged to the OpenJDK.

## **SKILLS**

- Technical Skills: Java, Kotlin, Python, C, R, SQL, HTML, CSS, Linux, JavaScript, PHP, MySQL, GIT
- Software: Android Studio, IntelliJ IDEA, Google Suite, Microsoft Office, SolidWorks, Metashape

## **INTEREST**

- Cycling, fishing, scuba diving(PADI Advanced Open Water Diver)

