Hui Xian Grace Lim

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EDUCATION

Rhodes College — **Memphis, TN**
B.S. in Computer Science, B.S. in Physics — May 2023
GPA: 4.00 majors, 3.99 overall
Honors: Honor Roll (2019-2021), Merit Scholarship: Dean's Fellowship (2019-2022), Sigma Pi Sigma Membership (November 2022)

University of Central Florida — **Orlando, FL**
Ph.D. in Computer Science — Expected graduation May 2028
Honors: Graduate Trustees Doctoral Fellowship

WORK EXPERIENCE

Department of Physics, Rhodes College — **Memphis, TN**
Peer Tutor — Fall 2022, Spring 2023

- Worked individually with 5+ students in weekly tutoring sessions
- Lead exam study sessions and assisted students in test corrections
- Built up students' confidence in applying introductory physics concepts

Teaching Assistant — Fall 2021, Fall 2022

- Explained and clarified lab instructions and problems as needed
- Reviewed answers for accuracy and helped students understand difficult concepts
- Maintained and operated 8-inch Celestron Telescopes
- Set up and organized Introductory Physics and Astronomy lab equipment

Student Researcher — Summers 2020, 2021

- Developed software for spectroscopic imaging of quasar hosts with a PSF decomposition and spectral analysis package in a JWST Early Release Science program
- Refactored, debugged, and updated IDL software into Python to be compatible with the JWST

Department of Computer Science, Rhodes College — **Memphis, TN**
Student Researcher — Spring 2021

- Reviewed papers on proposed genome sequencing methods
- Used deNovo assembly on mitochondrial genomes and low-coverage, whole genome sequences using the Lotus HPC cluster.

CAMP Lab, Clemson University — **Clemson, SC**
NSF REU Intern — Summer 2022

- Designed virtual character gesture perception experiments using Unity, Maya, and Blender to animate 3D models with various hand motion conditions.
- Ran experiments in VR in person and through Mechanical Turk, made a technical report and poster on the findings to present to other colleagues.

Center for Integrated Mobility Sciences, NREL — **Remote**
SULI Intern — Summer 2023

- Developed and implemented a classifier-agnostic method to estimate the uncertainty of phone-sensor mode predictions in python.
- Ran experiments with large datasets using Docker and python to test uncertainty-estimation methods, submitted a paper to the TRB 2024 annual meeting, and made a poster on the results to present to other colleagues.

CLASS PROJECTS

Source available upon request and on GitHub

- LISP Parser and Interpreter implemented in ML
- Drawing Program
    - Implemented brushes and image filters through kernel masking.
- Connect Four
    - Connect Four against a computer using the minimax algorithm, alpha-beta pruning, or alpha-beta pruning with a heuristic.
- Factorial Seven Segment Display implemented in Nios ISA assembly
- Spam Classifier using a Naive Bayes classifier

PUBLICATIONS AND PRESENTATIONS

Count Multivariate Metrics: Estimate Mode Count and Distance Uncertainty from Phone Sensors
Transportation Research Board Annual Meeting 2024, Under Review August 2023

The Perception of Hand Gestures in Conversational Virtual Characters **Clemson, SC**
Undergraduate Research Symposium, Clemson University July 2022

Quasar Observations with the James Webb Space Telescope **Virtual**
Conference for Undergraduate Women in Physics, American Physics Society January 2022

Collaborative Coding for Quasar Observations with the James Webb Space Telescope **Memphis, TN**
Rhodes Symposium, Rhodes College April 2021

SKILLS

- Programming languages: Python, HTML, CSS, Java, C++, C#, C, IDL, R, ML, JavaScript
- Tools and environments: Mathematica, Microsoft Office, GitHub, Weka, Unity, Maya, Blender, bash shell, Docker, RStudio, Jupyter Notebooks, VSCode