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, *summa cum laude*
Honors: Honor Roll (2019-2023), Merit Scholarship: Dean's Fellowship, Sigma Pi Sigma Membership, Phi Beta Kappa Membership

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

CURRENT PROJECTS

1. Diffusion-based Image Generation from Hand Tracking in VR

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.

PUBLICATIONS

1. Hussain, R., Lim, H.X.G., Chen, B., Shah, M., Lim, S.N. (2024). FSViewFusion: Few-Shots View Generation of Novel Objects. https://arxiv.org/pdf/2403.06394.pdf

2. Lim, H. X. G., Allen, M., Shankari, K. (2024). *Count Multivariate Metrics: Estimate Mode Count and Distance Uncertainty from Phone Sensors.* Transportation Research Board Annual Meeting 2024.

3. Veilleux, S., Liu, W., Vayner, A., Wylezalek, D., Rupke, D.S., Zakamska, N.L., Ishikawa, Y., Bertemes, C., Barrera-Ballesteros, J.K., Chen, H., Diachenko, N., Goulding, A.D., Greene, J.E., Hainline, K., Hamann, F., Heckman, T.M., Johnson, S. D., Lim, H.X.G., Lutz, D., . . . Whitesell, L. (2023). *First Results from the JWST Early Release Science Program Q3D: The Warm Ionized Gas Outflow in z ~ 1.6 Quasar XID 2028 and Its Impact on the Host Galaxy. The Astrophysical Journal, 953(1), 56.* https://doi.org/10.3847/1538-4357/ace10f

4. Vayner, A., Zakamska, N.L., Ishikawa, Y., Sankar, S., Wylezalek, D., Rupke, D.S., Veilleux, S., Bertemes, C., Barrera-Ballesteros, J.K., Chen, H., Diachenko, N., Goulding, A.D., Greene, J.E., Hainline, K.N., Hamann, F., Heckman, T.M., Johnson, S.D., Lim, H.X.G., Liu, W.E., Lutz, D., Lützgendorf, N., Mainieri, V., McCrory, R., Murphree, G., Nesvadba, N.P., Ogle, P.M., Sturm, E., & Whitesell, L. (2023). First Results from the JWST Early Release Science Program Q3D: Ionization Cone, Clumpy Star Formation, and Shocks in a z = 3 Extremely Red Quasar Host. *The Astrophysical Journal, 955*. https://doi.org/10.48550/arXiv.2307.13751

5. Vayner, A., Zakamska, N.L., Ishikawa, Y., Sankar, S., Wylezalek, D., Rupke, D.S., Veilleux, S., Bertemes, C., Barrera-Ballesteros, J.K., Chen, H., Diachenko, N., Goulding, A.D., Greene, J.E., Hainline, K.N., Hamann, F., Heckman, T.M., Johnson, S.D., Lim, H.X.G., Liu, W.E., Lutz, D., Lutzgendorf, N., Mainieri, V., McCrory, R., Murphree, G., Nesvadba, N.P., Ogle, P.M., Sturm, E., & Whitesell, L. (2023). First results from the JWST Early Release Science Program Q3D: Powerful quasar-driven galactic scale outflow at z = 3. https://doi.org/10.48550/arXiv.2307.13751

PRESENTATIONS

1. Lim, H. X. G., Justice, J., Adkins, A., Jörg, S.. (2022, July). *The Perception of Hand Gestures in Conversational Virtual Characters.* Undergraduate Research Symposium, Clemson University, Clemson, SC.

2. Lim, H. X. G., Whitesell, L. (2022, January 21-23). *Quasar Observations with the James Webb Space Telescope*. Conference for Undergraduate Women in Physics, American Physics Society, Virtual.

3. Lim, H. X. G., Whitesell, L. (2021, April). *Collaborative Coding for Quasar Observations with the James Webb Space Telescope.* Rhodes Symposium, Rhodes College, Memphis, TN.

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