RENNY HOANG

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EDUCATION

University of Texas at Dallas May 2026
Master of Science, Computer Science (Fast Track) *Richardson, TX*

University of Texas at Dallas May 2026
Bachelor of Science, Computer Science with Minor in Music *Richardson, TX*

- Cumulative GPA: 4.0
- Honors: Computing Scholar, National Merit Scholar, Collegium V Honors, Dean's List (x4)
- Relevant Coursework: DSA, Theory of Computation, Programming Languages, Software Engineering, UNIX

PROFESSIONAL EXPERIENCE

Undergraduate Research Assistant May 2024 - Present
University of Texas at Dallas *Richardson, TX*

- Modeled atmospheric bias in InSAR datasets with statistical models in **MATLAB**, increasing accuracy of interferograms
- Developed interactive visualizations for InSAR time-series analysis using **Python** (**Flask** and **Matplotlib**), improving accessibility and understanding for researchers
- Optimized processing efficiency by using parallel-computing, reducing analysis time by 40%

Undergraduate Teaching Assistant Jan 2024 - May 2024
University of Texas at Dallas, Department of Computer Science *Richardson, TX*

- Improved understanding of programming in students by conducting review sessions and providing feedback
- Assisted in course development by creating supplementary learning materials and grading assignments

Undergraduate Research Assistant May 2022 - Aug 2022
University of Texas at Dallas *Richardson, TX*

- Achieved an increase in workflow efficiency with respect to processing time by implementing automated pre-processing scripts in **Python**
- Reduced error rate of FOAM models by implementing noise reduction in **MATLAB**, resulting in more accurate wind turbine simulations

PERSONAL PROJECTS

YAPS (Yet Another Plugin Suite) | *C++, JUCE* May 2024

- Collection of open-source audio plugins that includes an FM synthesizer, equalizer, delay, reverb, and compressor
- Implemented advanced DSP algorithms for accurate and efficient audio effects and synthesis
- Conducted profiling and benchmarking to identify and address performance bottlenecks

Student Org Hub | *MongoDB, Express, React, Node.js* Dec 2023

- Developed a web app using the MERN stack (**MongoDB, Express.js, React.js, Node.js**) to enable UTD students to manage and interact with student organizations
- Designed and implemented a user-friendly interface with React.js, providing intuitive navigation and responsive design for a seamless user experience

quali.today | *Next.js, Typescript, PostgreSQL, Tailwind CSS* Oct 2023

- Implemented statistical models/analysis in **Python** (using **numpy** and **matplotlib**) to approve housing loans based on aggregated data including income, credit score, and past loan payments
- Crafted a UI for users to interact with the statistical models, check if they are eligible, and provide tips for the user to become eligible if they are not
- Architected a backend that includes a **PostgreSQL** database for securely storing user information and uses the **Prisma ORM** for interacting with the database

TECHNICAL SKILLS

Programming Languages: Python, Java, C/C++, SQL, Javascript/Typescript, HTML/CSS (Tailwind), Prolog, Lisp
Frameworks: Next.js, ReactJS, Node.js, Material-UI, Flask, JUCE, MATLAB
Developer Tools: Anaconda, Git, Docker, AWS, Kubernetes, Figma, (Neo)Vim,] Visual Studio, PyCharm
Certifications: AWS Certified Cloud Practitioner (2024)