# Lucas Chen

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#### EDUCATION

## Rice University

August 2021 - May 2025 (Expected)

Bachelor of Science in Computer Science, Bachelor of Arts in Mathematics

Houston, Texas

• GPA: 4.0/4.0, President's Honor Roll

### Relevant Coursework:

Reasoning about Algorithms, Probabilistic Algorithms and Data Structures, Probability and Statistics, Intro to Mathematical Cryptography, Matrix Analysis for Data Science, Algorithmic Thinking, Honors Linear Algebra, Concurrent Program Design, Complex Analysis

## TECHNICAL SKILLS

Programming Languages: Python, Java, C, C#, Go, JavaScript, HTML/CSS

Software and Tools: PyTorch, GitHub, ReactJS, Unity

## EXPERIENCE

## Undergraduate Research Assistant

May 2023 - Present

Rice University Data to Knowledge Lab

Houston, Texas

- Collaborated with graduate researchers on research and development involving time series prediction and anomaly detection using transformers, recurrent neural networks, and other neural network architecture
- Implemented neural network models from research papers utilizing Python and PyTorch

# Computer Science Teaching Assistant

September 2023 - Present

Rice University Houston, Texas

- Held office hours and graded exams and assignments for the course Reasoning about Algorithms
- Explained challenging concepts in algorithms and data structures

# **Mathematics Teaching Assistant**

June 2022 - August 2022

AwesomeMath Summer Program

Remot

- Collaborated with an instructor to teach high-level competition mathematics virtually to high school students
- Instructed classes, held office hours, and explained complex topics in algebra and combinatorics

## Projects

# Game Boy Emulator

- Built a cycle-accurate emulator for the DMG-01 Nintendo Game Boy in C
- Implemented the SM83 processor's instruction set along with emulation of parts of the original Game Boy's hardware using the SDL library

## Rice Datathon

- Developed a Python program using NumPy and Pandas to produce potential redistricting of the Houston area based on census data
- Awarded Best Houston/TX Trends and First Place in the Respective Track

## Ray Tracing

• Created a ray tracing program in C for rendering 3D scenes with reflections, anti-aliasing, and simple shadows

## Community

## Volunteer Instructor

2017 - 2021

A-Sharp Learning Center

- Taught math and computer science courses to elementary through high school students
- Designed and organized course content for Python, HTML, number theory, animation, and game development

## ACTIVITIES AND AWARDS

Honors: USA Mathematical Olympiad (USAMO) 3x Qualifier, USA Physics Olympiad (USAPhO) 3x Qualifier

Hobbies: Drawing, Game Development, Baking, Chess Clubs: Rice CS Club, Rice Design Club, Rice Art Club