# Grant Skaggs

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Site: grantskaggs.com

## Education

May 2022 **University of Texas at Austin**, *Turing Scholar Honors Program*
B.S. Computer Science & B.S. Mathematics; **GPA: 3.97**

## Experience

Summer 2020 **Duolingo**, *Software Engineering Intern*
- Deployed a new weekly in-app prize for paid subscribers; developed the feature for the **iOS** app in **Swift**
- Implemented the backend API in **Python, Java,** and **Kotlin;** recorded prize usage in a **PSQL database**

Summer 2019 **University of Texas at Austin**, *Undergraduate Research Assistant*
- Applied **recurrent neural networks** to the problem of **cache data prefetching** in modern computer architectures
- Developed and tuned a two-layer **LSTM** neural model using **TensorFlow** and **Python** to prefetch addresses

## Mentorship

Fall 2020 **UT Computer Science Department**, *Pod Mentor*
- Leading a small group of first year CS students in a weekly seminar to build CS community and connect students to CS-specific resources

Summer 2019 **Austin Chinese Educational Services**, *Course Instructor*
- Led introductory Python and Scratch courses for elementary and middle school students; designed the course objectives and curriculum; taught daily lectures; helped students with their course projects

## Projects

Summer 2020 **Pyxeled**, *Python*
- Applied **machine learning** fundamentals to transform normal photographs into aesthetic pixel art
- Implemented intelligent **clustering alogorithms** to preserve image features at lower resolutions and limited color palettes; published a webpage gallery to exhibit generated pixel art at grantskaggs.com/pyxeled

Summer 2019 **RayTracer**, *C++*
- Developed a **ray-tracer** in **C++** to render 3-Dimensional scenes
- Implemented features: Polygonal meshes, 3D object rotation/distortion, recursive reflection and refractions, point and directional lighting, multithreading, variable material types, shadows, specular and diffuse shading

Fall 2018 **Webcrawler**, *Java*
- Designed a **Java application** for web crawling, page indexing, and search
- Included a graphical user interface, page-ranking features, and a robust web query parser

## Skills

**Programming Languages**: C/C++, Java, Python, Swift, HTML/CSS, Git, Bash

**CS Coursework**: Algorithms, Data Structures, Operating Systems, Computer Architecture, Discrete Math, Data Mining, Quantum Computing, Computer Graphics, Competitive Programming

## Honors / Awards

**Academic**: National Merit Scholar, National AP Scholar, Phi Beta Kappa Scholarship, CLHS Valedictorian

**STEM**: AIME Qualifier, Science Olympiad Gold Medalist, HackTX CDK Global Award