

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

Projects

- Summer 2020 **Pyxeled, Python**
- Applied **machine learning** fundamentals to transform normal photographs into aesthetic pixel art
 - Implemented intelligent **clustering algorithms** 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

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

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