

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 & Philosophy Minor; **GPA: 3.96**
Coursework: Algorithms, Data Structures, Data Mining, Operating Systems, Computer Architecture, Cryptography, Quantum Computing, Graphics, Physical Simulation, Competitive Programming

Experience

- Summer 2020 **Duolingo, Software Engineering Intern**
 - Deployed a weekly timer boost prize for premium subscribers of Duolingo's **iOS** app
 - Worked closely with product designers to implement the new feature's user interface using **Swift** and **UIKit**
 - Developed the backend API in **Python**, **Java**, and **Kotlin**; recorded prize usage in a **SQL** database
- Summer 2019 **University of Texas at Austin, Undergraduate Research Assistant**
 - Applied **recurrent neural networks** to 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

Mentorship

- Fall 2020 - Present **University of Texas 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
- Spring 2021 **University of Texas Computer Science Department, Teaching Assistant**
 - Held office hours and graded projects for a honors computer graphics course
- 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

Skills

Proficient: C/C++, Java, Python, HTML, CSS

Familiar: R, SQL, Excel, Javascript, Swift, Kotlin, Git, Bash, React, Google Firebase, numpy, scikit-learn, pandas, pytorch

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, USACO Gold Ranking