

# Daniel Killough

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## EDUCATION

**The University of Texas at Austin**, Austin, TX December 2022  
*Bachelor of Science, Computer Science* GPA 3.63  
Certificate, Digital Arts & Media  
Certificate, Texas Immersive  
Coursework: Intro to Human-Computer Interaction, Computer Graphics, Social Interactions in Virtual Environments, Algorithms, Experimental Storytelling, Computer Architecture, Object-Oriented Programming, Digital Imaging & Visualization

## SKILLS

**Languages:** C/C++, JavaScript (Node, React, Svelte), HTML/CSS, Java  
**Technologies:** Niantic 8th Wall (A-Frame, three.js), Git, Discord, Jira, Godot, Unreal Engine 4  
**Creative software:** OBS Studio, Figma, Adobe Photoshop/Illustrator/Premiere Pro

## RESEARCH

**ASSESSING METHODS FOR MAKING MEDIA ACCESSIBLE** [*Working Title*] May 2022 - present  
*Researcher*

- Investigating how to improve livestream accessibility for people with visual impairments alongside Dr. Amy Pavel, UT CS HCI
- Studied livestream viewers across 7 topic categories to determine most important visual content in live scenes
- Developed data visualization with side-by-side comparison of visual description input methods
- Developed interactive prototype to display video alongside corresponding descriptions

**SOLAR RUN** July 2020 - December 2021  
*Lead Developer; UI/UX Designer; Researcher*

- Awarded \$15k research grant from Texas Global and UT President Jay Hartzell to develop web AR experience
- Experience improved skin cancer prevention awareness for young adults aged 18-25 in Singapore and Texas
- Developed web AR application using **8th Wall**
  - Portrayed accurate representations of permanent skin damage on player's face; backed by public health research
- Created **MySQL** backend database hosted on UT web servers and interfaced with **PHP**
- Collaborated with partners at Nanyang Technological University to unveil experience

**ABILITY OF VR TO IMPROVE SPEECH THERAPY DEVICE TRAINING** January - December 2018  
*Researcher*

- Investigated the ability of Oculus VR to improve teaching methods of medical tools to oral placement therapists
- Developed method and step-by-step guide to convert existing 2D training videos to stereoscopic 3D while retaining audio
- Conducted user study with 24 oral placement therapists
- Results demonstrated proof of concept towards VR as a training medium, but further research required

## WORK EXPERIENCE

**FAIR WORLDS**, Austin, TX June 2022 - October 2022  
*Software Engineer, Contract*

- Developed two web AR projects using **Niantic 8thWall**
  - AR ad activation for Regions Bank installed at public parks and football games across the southeastern United States
  - AR scavenger hunt unveiled at the 2022 DCAC data conference in downtown Austin, TX for 650+ attendees
- Scripted **C#** for upcoming "Space-Time Adventure Tour" at the Seattle Center in Unity
- UI/UX design consulting on Unity and UE5 projects for clients like H-E-B and National Pool Tile
- Research & development on internal A-Frame web AR application framework

**TEXAS IMMERSIVE INSTITUTE** at The University of Texas at Austin, Austin, TX Spring 2022  
*Technical Consultant, Roses of the Rubble*

- Implemented immersive capstone project alongside 2022 cohort of graduate-level immersive students
- Devised low-cost data storage methods for touchpoint data on NFC devices to interface between **Arduino** computers
- Taught advertising student how to program a front-end web app for anagram solver interaction

**TABULA RASA HEALTHCARE**, Mount Pleasant, SC 3x Summer Intern Summer 2021  
*Software Engineer Intern*

- Contributed **NodeJS** and **Python** to greenfield project that manages patient data to abstract core API from the end user
  - Ecosystem of microservices implemented on **Google Cloud Platform** using Apache Beam
- Refactored internal library to parse R4 FHIR Bundles (JSON)
- Generated unit testing framework with 350k+ tests for internal team and QA use

## TABULA RASA HEALTHCARE (cont.)

Software Engineer Intern

Summer 2020

- Utilized **ReactJS**, **Python**, and **Google Cloud Platform** for UI/UX enhancements, data tracking, and test fixture development on TRHC Developer Portal used daily by internal developers company-wide
- Maintained and improved API proxy service documentation generated by engineering team

Software Engineer Intern

Summer 2019

- Developed full stack capital expenditures reporting app for internal use by management
- Utilized **SvelteJS** frontend alongside **MySQL** backend with `@hapi/joi` data validation

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## PROJECTS

### ICEBREAKER

March - May 2022

UI/UX Designer; UI/UX Developer

- Party game made for HCI course formatted for multiple user smartphone displays connected to a single main display
- Detailed user interface design and UX flow using **Figma** and implemented using **NodeJS** frontend with **Django** backend

### BE A LONGHORN UT ADMISSIONS AR CAMPUS TOUR

March - December 2020

Co-Developer

- Created 3-part interactive campus tour experience using **8th Wall** and **PHP** for UT Office of Admissions
  - Designed AR map mailer including stylized map of campus; sent to 70k prospective students annually
  - Developed minigame for location-based asynchronous AR walking tour; released while tours halted due to COVID-19
  - Debugged 5ft touchscreen AR photobooth for showcase at Infinity Festival Hollywood in 2021

### AMIGOS

August - December 2020

Keyboard Integrations Lead; Chatroom UI Lead

- Developed custom **C++** Operating System with fellow CS students to load integrated peer-to-peer messaging application
- Led team implementing functionality to port keystrokes from host machine into QEMU
- Designed and implemented messaging application's graphical user interface

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## LEADERSHIP

### LONGHORN GAMING

August 2019 - present

Student Advisor (2022-present), President (2021-2022), Vice President of External Affairs (2020-2021), Community Director (2019-2020)

- Former CEO; managed operations for the largest student organization at UT, growing to over 4,000 members
- Directed design, development, and buildout of Alienware's first collegiate esports lounge and UT's first esports arena
  - Gave remarks at ribbon cutting ceremony alongside UT President Jay Hartzell and Dean Soncia Reagins-Lilly
- Coordinated planning and execution of events drawing hundreds of attendees alongside daily maintenance of Discord server

### DIGITAL DIVERSITY DAY (D3)

July - November 2019

Director, Student Pitch Competition

- Worked 20 hrs/week on top of studies coordinating event with Dell Project Innovate and the Texas Immersive Institute
- Promoted innovation and diversity in interactive media
- Students pitched ideas for products, media, services, and experiences to win \$12,000 in prize