Andrew Yu

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Summary

I'm an experienced fullstack developer in mobile and web development with a love for creating games that bring joy to people's lives. As part of this passion, I founded Polyverse, a nonprofit that hosts game development workshops at schools and acts as a one-stop hub for all game developers and students to find free online courses and assets. In my free time I like pulling all-nighters for hackathons, jamming away at the drums, and I'm a second-degree black belt in Taekwondo. Feel free to reach out!

Experience

Founder & Executive Director

Polyverse

Feb 2023 - Present (11 months)

Our non-profit, Polyverse, is dedicated to building an all-encompassing knowledge hub for game developers, our primary goals being to offer free access to comprehensive online lessons on game development and provide users with extensive collections of free assets. Additionally, we organize local events in the Bay Area such as interactive workshops, top-tier game jams, and more. Our aim is to extend our outreach beyond our local communities to impact developers worldwide.

DishIt

Competitive Programmer

Apr 2023 - Present (9 months)

DishIt was created for Los Altos Hacks VII

In a digital age where many people post pictures of everything in their lives, it's common that many people may want to emulate what they see. DishIt was created to help people replicate the food they see on social media with affordable, nearby resources.

DishIt uses machine learning and takes an image to classify the food in the image, and then scours the web for recipes that you can replicate.

Software Engineer Intern

Darim Vision

Feb 2023 - Present (11 months)

Remote software engineer intern for Darim Vision.

- Implemented video synchronization between virtual reality headsets using network protocols in Unity, work presented at 14th Future Education Conference in Seoul (10 countries, 182 edu-related orgs, 30,000 visitors). System bought and used by Gwacheon City Library.

Technology Lead

XR EDU
Sep 2022 - Present (1 year 4 months)
(2023-2024)
- Spearheaded a new hackathon initiative planned for 2024, led team of club officers and members to organize the hackathon.
- Led a team to become State Finalists in Samsung Solve for Tomorrow 2023-2024, winning $2500 for the school. (National Winner determination in progress)

(2022-2023)
- Led winning team in multiple XR competitions including honors in Games for Change
- Worked as a volunteer teacher to educate both kids and seniors about emerging technologies like Virtual, Augmented, and Mixed Reality and how these technologies can solve community issues

Active Member
XR EDU
Sep 2021 - Present (2 years 4 months)
(2021-2022)
- Senior VR Tech Workshop: Volunteered at nearby retirement homes to give community seniors living with dementia a chance to revisit their home towns through the power of Virtual Reality
- Led team to be winners of the XR Games competition with a novel solution to detecting oil spills using satellite imaging and machine learning
- Participated in Samsung Solve for Tomorrow and Games for Change Student Challenge, creating a puzzle game to give people a way to experience living with dementia and raise awareness.

Summer Intern
Camp Galileo
Jun 2023 - Jul 2023 (2 months)
Handled management of daily logistics and safety concerns, worked collaboratively with other instructors to manage camp participants and set up activities

Wriggle
Competitive Programmer
Mar 2023 - Apr 2023 (2 months)
This game was created for Bear Jams 2023 Spring Semester

In this 2D platformer game, players take on the role of a small, wriggling worm traversing through a desolate and mysterious world. With a heavy emphasis on movement-based gameplay, players must use their platforming skills to explore the game's interconnected environments, slowly unlocking new abilities that allow them to access previously inaccessible areas. The game's aesthetic is moody and atmospheric, with dark and foreboding visuals and haunting ambient music. Throughout their journey, players will encounter a variety of strange locations. Along the way, players can interact with various NPCs who provide hints and clues to the game's underlying lore and story. With a challenging boss fight and a vast, interconnected world to explore, players will find themselves completely immersed in this haunting and unforgettable adventure.

Aiden's Adventure

Competitive Programmer
Oct 2022 - Mar 2023 (6 months)
This game was created for Bear Jams 2022 Fall Semester.

An exciting adventure game in which the player navigates across worlds to pursue love.

Just as our hero, Aiden, approaches Sylvestina, the girl of his dreams, to confess his love, she is sucked away by a portal that carries her across galaxies. Aiden follows her into a cave and jumps between similar portals, searching for Sylvestina along the way. While fighting extraterrestrials and navigating different settings, Aiden must switch between the 2nd and 3rd dimensions to reveal the correct path.

Frinder

Competitive Programmer
Sep 2022 - Oct 2022 (2 months)
Frinder was created for Los Altos Hacks VI

Frinder allows high schoolers to create an account and enter a global chatroom with other high schoolers around the country. You can create a profile with an about me and a list of interests to meet other high schoolers with similar interests, allowing you to make friends more easily.

Mood

Competitive Programmer
Jun 2022 - Sep 2022 (4 months)
Mood was created for Onehacks II.
Our website, Mood, once granted permission, will use visual input provided by the user to produce a playlist reflecting their mood. The playlist is created using Artificial Intelligence and contains a large number of songs, which are promptly saved to the user's collection. This process can be repeated numerous times, so depending on the day, the user will be able to experience all different kinds of music, even if their mood does not change. The user's mood is calculated by calculating where specific landmarks on the user's face are, and their relative positions in order to tell if how they are probably feeling. The program we use to produce the playlist finds related artists in specific genres that fit under moods and gets better when it gets a feel of what kinds of music you listen to often. As a result, our website Mood encourages the user to listen to a wide array of music currently on Spotify, which also demonstrates their mood.

Groovie

Competitive Programmer
May 2022 - Jun 2022 (2 months)
Groovie was created for Masseyhacks VIII.
At first glance, Groovie may appear like just another discord music bot, but in reality, this music bot has a very cool unique feature, it can actually comprehend what you are saying and process it to play music, pause, resume, and much more. This is all thanks to machine learning and voice recognition that allowed us to train it to recognize even the roughest of voices.

Lost Memories

Competitive Programmer
Mar 2022 - May 2022 (3 months)
Lost Memories is a game built for the Games For Change Student Challenge 2022. The game was created to raise awareness for people living with dementia by having players experience life from their perspective. This is a puzzle game in which players are trapped in their mind and have to solve puzzles in order to regain their memories and bring color back into their world.

Penguin Parkour

Competitive Programmer
Mar 2022 - Mar 2022 (1 month)
This game was created for Bear Jams 2022 Spring Semester. Your pet penguins have been kidnapped and now are being held hostage by the Ragdolls. Jump across platforms that disappear and reappear by switching dimensions. Slow down time and dodge bullets. Dash with your sword and swing with your grapples to take back your penguins.

The Flipside

Competitive Programmer
Nov 2021 - Mar 2022 (5 months)
The Flipside was a game created for Bear Jams 2021 Fall Semester. The Flipside is a game with four different characters that experience gravity in different orientations going North, West, South, and East. In this multiplayer game, they have to work together to solve puzzles and move on to the next level in order to escape after being absorbed by an interdimensional rift.

2020: The Game

Competitive Programmer
Jun 2021 - Nov 2021 (6 months)
2020: The Game was created for MasseyHacks VII. It is a game going through the events of 2020 with a twist at the end.

ConnectASL - 2nd Place Winner

Competitive Programmer
May 2021 - Jun 2021 (2 months)
Currently, 430 million people in the world require rehabilitation for disabling hearing loss. Our goal was to create software that gives such people an opportunity to communicate efficiently. We came up with a translator that converted sign language to both text and speech aimed to help mute, deaf, or aurally challenged people, giving them a way to communicate easily with others. It uses TensorflowJS for machine learning in order to detect sign language and convert it into text. Built for Equal Opportunities Hackathon 2021.

EyeSee

Competitive Programmer
Apr 2021 - May 2021 (2 months)

EyeSee was created for Los Altos Hacks V. EyeSee is a website to allow blind people to be able to see with sound. It allows users to interact with a speaking chatbot and it also has a feature to identify objects in the world around them through their camera using artificial intelligence.

Sociapolis - 1st Place Winner for Connectivity Track

Competitive Programmer
Apr 2021 - Apr 2021 (1 month)
Website where users can join rooms and video call with each other while playing games in the website together to help people open up and express themselves more during this pandemic. Created for connectivity track in hello:world Cal Hacks.

Keepin Safe

Competitive Programmer
Mar 2021 - Apr 2021 (2 months)
Website built for DVHacks III to give users the latest information on Covid-19 including latest stats, news, and nearby testing/vaccination locations.

Covid Unlocked - 1st Place Winner

Competitive Programmer
Oct 2020 - Mar 2021 (6 months)
Android app to update you with live information about Covid-19 (Built for Equal Opportunity Starhacks Hackathon). Displays the latest information about Covid-19 such as the total deaths, tested positive, recoveries, and more. Also shows the nearest testing sites to you no matter where you are.

RateMate

Competitive Programmer
Mar 2019 - Oct 2020 (1 year 8 months)
RateMate was a website created for Los Altos Hacks IV. This website allowed people to create private rooms, invite others to join with a unique code, select different products, and have others in the room rate them based on their preferences.

Education

Dougherty Valley High School

High School, Student
Aug 2020 - Jun 2024
W GPA: 4.32
U/W GPA: 3.91
UC GPA: 4.54

AP Courses:
- AP Calculus AB (10) - 5
- AP World History (10) - 5
- AP Calculus BC (11) - 5
- AP US History (11) - 5
- AP Computer Science A (11) - 5

- AP Physics C: Mechanics (11) - 5
- AP English Language & Composition (12)
- AP Spanish 5 (12)
- AP US Government (12)
- AP Statistics (12)

Honors Courses:
- Honors Physics (10)
- Spanish 4 Honors (11)
- Honors Chemistry (12)

Coursera
Aug 2020 - Jun 2024
Computer Science: Algorithms, Theory, and Machines - Princeton University

Computer Science: Programming with a Purpose - Princeton University

Introduction to Game Development - Michigan State University

Game Design and Development with Unity 2020 Specialization - Michigan State University

Machine Learning - Stanford University

Foundations of User Experience (UX) Design - Google

Java for Android - Vanderbilt University

Android App Components - Intents, Activities, and Broadcast Receivers - Vanderbilt University

Build Your First Android App (Project-Centered Course) - CentraleSupélec

Las Positas College
Mathematics
Aug 2023 - May 2024
Math 3 - Multivariable Calculus

Diablo Valley College
Mathematics
Jun 2023 - Jul 2023
Math 194 - Linear Algebra

Brigham Young University
2021 - 2021
CS-041-T001: Computer Science, Part 1 (TL)

CS-043-T001: Computer Science, Part 2 (TL)

Windemere Ranch Middle School
2018 - 2020

Dulwich College Seoul
2014 - 2017
Participated in:
-Fobisia Junior Coding Competition (May 2016)
-Art and Science Photography Competition (2015)
-Poetry Recital
-D'Oscars International Film Festival
-UK Junior Mathematical Challenge
-2017 British Chamber of Commerce in Korea Queen's Birthday Ball

Awards:
-D'Oscars Film Festival Winner
-Contribution to the 2017 Chamber of Commerce in Korea Queen's Birthday Ball
-Gold Certificate for UK Junior Mathematical Challenge
-Bronze Certificate in recognition of achieving 50 Merit Points (x3)

Licenses & Certifications

Game Design and Development 1: 2D Shooter - Michigan State University
FQSFUPNZTC2E

Game Design and Development 2: 2D Platformer - Michigan State University
JC9YLAQ3UR7C

Game Design and Development 3: 3D Shooter - Michigan State University
NRPC5Y86KTFG

Game Design and Development 4: 3D Platformer - Michigan State University
WW4RXNRYPQ52

Game Design and Development 5: Capstone Project - Michigan State University
CLQU4QX8PYYF

Game Design and Development with Unity 2020 Specialization - Michigan State University
722F76KHH6ZP

Skills

TensorFlow • REST APIs • Node.js • Storytelling • Multivariable Calculus • Linear Algebra • Communication • Teamwork • .NET Framework • Game Development

Honors & Awards

D'Oscars International Film Festival 2016 - Ian Stewart

Feb 2016

Winner of D'Oscars International Film Festival 2016 in Dulwich College Seoul

Gold Certificate UK Junior Mathematical Challenge - Professor Chris Budd OBE Chairman, United Kingdom Mathematics Trust

2017

Gold Certificate for the UK Junior Mathematical Challenge 2017 Hosted by the UKMT.

Google Code-in 2018 - Chris DiBona, Director of Open Source

Dec 2018

Contributed to open source software completing 7 tasks as part of Google Code-in 2018

Google Code-in 2019 - Chris DiBona, Director of Open Source

Jan 2020

Contributed to Open Source Software completing 3 tasks as part of Google Code-in 2019

President's Award For Educational Excellence

May 2020

Presented to Andrew Yu in recognition of Outstanding Academic Excellence 2020

Equal Opportunities Hackathon 2020 - Shooting Star Foundation - Shooting Star Foundation

Oct 2020

First place winner of the Intermediate Category of Equal Opportunities Hackathon 2020 hosted by Shooting Star Foundation and Amgen. Designed an app to give all the newest information on Covid-19 (Nearby testing locations, latest statistics).

hello:world Cal Hacks Winner - Cal Hacks

Apr 2021

1st Place Winner, Connectivity Beginner Track - Created website for users to connect through video calls and play games together on the website.

Equal Opportunities Hackathon 2021 - Shooting Star Foundation - Shooting Star Foundation

May 2021

Second place winner of advanced category in Equal Opportunities Hackathon 2021 hosted by Shooting Star Foundation and Netscout. Made website to translate ASL (American Sign Language) in real time and read it out loud with text to speech.

2020 AI Ethics Lab Fellowship - CreAItivity

Mar 2021

Selected as one of around 100 students accepted into this fellowship. CreAItivity AI Ethics Lab helps educate the public more on the interdisciplinary field between technology and social justice. Topics include algorithmic bias, data privacy, etc. Participants then deliver a final solution to solve the issues they identified through a final deliverable.

National Merit Semifinalist from California - Class of 2024 - National Merit Scholarship Corporation

Sep 2023

Scored within the top 1% of 1.6 million PSAT examinees and in the top 0.5% of California's senior students. PSAT score (out of 1520): 1490

AP Scholar with Distinction - Collegeboard

Jul 2023

This is awarded to students who average a minimum of 3.5 on all their AP exams and score 3 or more on at least five of these exams. Scored a perfect 5 on all six AP exams in Sophomore and Junior years.

State Finalist: Samsung Solve for Tomorrow (National Winner determination in progress) - Samsung

Dec 2023

XR EDU worked collaboratively to produce a feasible idea for a STEM-related solution to a problem faced by the community. The idea involved a wearable wristband designed to connect homeless individuals with local emergency services wherever they are with the click of a button.

At the core of this project is the application of technology. The device's computing power is provided by a Raspberry Pi, a compact low-cost yet powerful single-board computer. This technology enables the device to run essential applications and facilitates seamless communication with local emergency services. The connection will be made through the use of external hardware components including a GSM SIM800L module, a GPS module, a solar powered battery, microphone, speakers, and buttons connected to the Raspberry Pi and code written directly to this miniature computer that will provide the necessary functions for contacting emergency services.

The device's connectivity with emergency services is made possible through multiple hardware components. The GSM SIM800L module is a telecommunications component which allows for the use of sim cards in a Raspberry Pi which is necessary for placing calls to emergency services. The GPS module will be used to track the user's location and send this data to emergency services once the button is pressed. In an effort to create green energy we will plan to use a solar powered battery to keep this device sustainable and to utilize clean energy sources that will provide easy reusability for homeless youth, who do not have energy security. A microphone and small speaker will also be built into the device to allow the user to communicate with the emergency service providers.

To make this technology free for vulnerable unsheltered youth, we will partner with homeless shelters, emergency service providers (fire department, police, hospitals), technology companies and our local government.