

Mary Xu

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EDUCATION

Georgia Institute of Technology

MS in Computer Science | Computer Graphics concentration

Atlanta, GA | 2021-2022

- GPA: 3.9
- Related courses: Computer Animation, Procedural Content Generation, GPU Programming for Video Games, Graduate Computer Graphics, Computer Aesthetics

BS in Computer Science | Media + Intelligence concentrations

Atlanta, GA | 2017-2021

- GPA: 3.86 | Zell Miller Scholarship
- Related courses: Computer Graphics, Video Game Design, Computer Vision, Machine Learning, Introduction to Artificial Intelligence, Computer Audio

SKILLS

Technical

C++, C#, Unity, Java, JavaScript, React, Git/Mercurial, OpenGL, PowerShell, Python, PyBullet, TypeScript, C, NumPy, HTML/CSS

Creative + Design

Figma, Adobe Illustrator, Adobe Photoshop, Procreate, Blender, Laser cutting, woodworking

INDUSTRY EXPERIENCE

Meta

Software Engineer | Horizons @ Meta Reality Labs

Bellevue, WA | January 2024 - Current

- Designed and developed in PHP a system to reconcile birthdays for Meta accounts owned by minors.
- Developed in React for an unreleased project improving the Meta Quest Store experience.

Software Engineer | Avatars @ Meta Reality Labs

Bellevue, WA | August 2022 - January 2024

- Lead engineer POC for color parametrics to provide better representation in our Avatars used in VR and on stickers.
- Designed and developed in C++ a robust system for continuous color choices for Avatar creation across all platforms.
- Collaborate across 4 teams to gauge needs from various partners across all Meta's family of apps.

Georgia Institute of Technology

Computer Graphics Teaching Assistant

Atlanta, GA | January 2022 – May 2022, January 2021 – May 2021

- Hosted office hours to answer student questions about projects, debug their code, and give pointers on how to start or complete the project. This included giving a lot of background on various computer graphics concepts.
- Graded student projects based on a rubric. Gave feedback about what went wrong and what went well in their work.

Computer Graphics Research

Atlanta, GA | August 2021 – December 2021

- Simulate human grip on PyBullet. Grip is difficult on PyBullet due to the lack of friction on solid bodies.
- Creating 3 different methods of increasing contact points and pliability of a gripper to simulate grip better.

Microsoft

Software Engineer Intern | Office for the Web Infrastructure

Remote | May 2021 – August 2021

- Worked with C# on the monorepo to migrate our services to using Azure Managed Identities for authentication instead of connection strings and certificates.
- Automated Azure Managed Identity setup in Azure Portal with PowerShell and Azure PowerShell scripts.
- Reduced cost of managing our secrets for our services by 91% and eased future Managed Identity setup.

Software Engineer Intern | Office for the Web Infrastructure

Remote | May 2020 – August 2020

- Worked with C# and Git to create a tool that automates transfer of data from configuration files to a source of truth.
- Saved developers 50% of the work and created a more reliable location for all of datacenter configurations.
- Results will be used to monitor and alert during runtime. Will be helpful for future developers on-call.

Explore Program Intern | OneDrive/SharePoint

Redmond, WA | May 2019 – August 2019

- Work with React, TypeScript, and Git to build an interactive and customizable dashboard.
- Ensured the state of the dashboard saves after logging out and after changes made from a side panel.
- Created a stepping stone for other teams in Microsoft 365 to implement similar dashboards.

Chick-fil-a

Software Innovation Intern (part-time)

Atlanta, GA | August 2019 – December 2019

- Working with Python to evaluate accuracy, sensitivity, and specificity of models learning food safety hazards.
- Script outputs incorrect predictions as well as accuracy, sensitivity, and specificity over time.

GOPROCUR

Summer Intern

Duluth, GA | May 2018 – August 2018

- Automated sales data updating process. Email comes in with an attachment of data that needs to be updated.
- Wrote a macro script in Outlook Visual Basic that saves that attachment to the hard-drive and a Python script, run by the macro, that will parse the data from the attachment and save it to a MySQL database.
- <https://www.goprocure.com/>: Design and improve the marketing website to bring in more clients.

PROJECTS

Ghost with the Flow (Top 10 at MelonJam)

Artist + Game designer

Remote | July 2024 - current

- Endless runner metafiction game inspired by Pony Island. #9 overall, #4 in graphics
- Designed game mechanics, drew and animated all assets in the game. Adobe Photoshop, Illustrator, and Figma
- Updated version: strawbear-studios.itch.io/updated-version-ghost-with-the-flow?password=newghost
- Original submission: itch.io/jam/melonjam5/rate/2848183

Unity: Waterboy Adventures

Game developer + Artist

Atlanta, GA | August 2020 – December 2020

- A puzzle-based game built in Unity and C#. The main character is a robot that needs to upgrade his body to gain abilities to replenish the water in his village that is experiencing a drought.
- Developed AI pursuit agents, weapon logic, character persistence logic, and treasure chest persistence logic.
- Modeled the 4 different character bodies in Blender.

GameBoy Advance: LumberJack Jack

Game developer + Artist

Atlanta, GA | November 2018

- An escape room GameBoy Advance game about helping a lumberjack who lost his way at work one day.
- Solo project with programming, design, and art. Coded in C and designed in Adobe Photoshop.
- One of the top 10 projects in a Computer Organization and Programming class of 400+ students.

EarthCents (Top 30 at PennApps)

Developer + designer

Philadelphia, PA | September 2018

- <https://devpost.com/software/bottlecycler-pennapps-2018>: System that uses computer vision and a pre-created learning model to recognize bottles and cans for bottle exchange for a coin to incentivize recycling.
- System consists of software (in the form of a web-app) and hardware (an Arduino board and 2 servos)
- Worked on front-end and communication between front-end and backend, using HTML/CSS, JavaScript, and Flask, and the physical hardware system, making the cardboard structure for the Arduino board and servos.

Escape to Elysium (adventure board game)

Artist + Game designer

Atlanta, GA | August 2017 – January 2020

- Leader of the design team. Designed all board game parts. Learned skills that could be useful in UI/UX design.
- Eased game play for potential players of the game and based everything around user experience.
- “Design ethos united the game pieces, manual, and marketing materials.” -Professor

COLLEGE ORGANIZATIONS

HackGT

Design Director, Rebrand Lead, Build Crew Lead

Atlanta, GA | November 2019 – November 2020

- Managed 5 project teams within Design team to host our first virtual hackathon. Created a new project team with marketing, improving cross team communication and increased planning for the marketing campaign.
- Manage Rebrand Team in doing an organization rebrand (launch in Oct 2020) to create a more coherent and recognizable brand, allowing for more future growth. Caused team to think deeply about org sustainability.
- Manage Build Crew in building physical structures, one of which was a photobooth consisting of 6 cameras spread in a circle to take 6 pictures at the same time to stitch together into a gif to create a 3D gif effect.

Design Team Member, Build Crew Member

Atlanta, GA | January 2018 – November 2019

- Design lead for Catalyst, a learn-a-thon for underprivileged high schoolers in the Metro Atlanta area.
- Used Adobe Illustrator, Adobe Draw, and Figma to design all the visuals at HackGT events.
- For HackGT6: Into the Rabbit Hole, helped paint and laser-cut parts for the structures displayed in the venue, including two 8' tall hexagon shaped rooms, an 8'+ tall wooden cutout event logo, an 8' tall 4 panel structure.

Golden Swarm Games Studio

Atlanta, GA | January 2018 – January 2020

- Studio President and Founder. Plan for each general and officer meeting. Plan events for the club.
- Studio created because of *Escape to Elysium* to advance the game and create more board/video games.