Angela Dai

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Education

Georgia Institute of Technology, Atlanta, GA *Sept 2022–**Expected May 2024***
Master of Science in Computer Science
- Concentration in Computer Graphics

Bachelor of Science in Computer Science, **3.96 GPA** *Aug 2020–Expected May 2023*
- Concentration in Media and Artificial Intelligence

Relevant Course Work: Computer Vision, Computer Graphics, Machine Learning, Data Visualization, Video Game Design, UX Design, Linear Algebra, Data Structures and Algorithms, Object Oriented Programming, Discrete Math

Experience

The New York Times *Jun 2023 - Present*
Research & Development Intern, Spatial Computing
- Develop a mobile AR experience to accompany NYT digital content using **SparkAR**, **JavaScript,** and **Blender**
- Prototype and test interaction/content prototypes to optimize user experience and explore the platform's capabilities
- Create and present project proposals to large groups of technical and non-technical stakeholders

AGCO Corporation *Feb 2023 - Aug 2023*
Augmented Reality Developer Intern
- Implemented AR training tutorials and equipment guides with **Vuforia Studio** and **JavaScript**
- Collaborated to build a mobile AR app to aid farmers with equipment maintenance using **Vuforia**, **Unity,** and **C#**
- Overlayed CAD models onto physical equipment with model targets to guide the user through maintenance tasks

Georgia Tech: Digital Integrative Liberal Arts Center *Oct 2021 - Present*
Lead Developer, Project Manager
- Led a 3-person development team in building a location-based AR installation that recreates the Atlanta Pickrick protests that occurred on Georgia Tech's campus using **Unity**, **Blender,** and **C#**
- Created an AR timeline to add historical context and anchor the experience in the physical world using image recognition and **ARFoundation**
- Developed an AR hotspot system that utilizes spatial anchors and collisions to allow user interaction at predefined locations within the environment

Georgia Tech: Augmented Environments Lab *Sep 2020 - May 2021*
Research Assistant
- Collaborated with a 3-person team to develop an interactive VR environment representing McCloud's "Big Triangle" using **JavaScript**, Mozilla Hubs, and **Three.js**
- Implemented real-time model transformations based on the user's position in the room using morph targets and shape-keys with **Three.js** and **Blender**

Projects

Ray Tracer | Class *Dec 2022 - Present*
- Coded a distribution ray tracer with reflection and specular shading from scratch using **Java** and **Processing**
- Used bounding volume hierarchies to create ray acceleration structures and render 100k triangle meshes in seconds
- Utilized ray distribution functionality to render a variety of distribution effects such as soft shadows and motion blur

LetsBuild! | Hackathon *Oct 2022*
- Developed a collaborative AR block building game to encourage more productive screentime for children using **Unity** and **C#** during HackGT
- Implemented AR multiplayer using Apple's Multipeer Connectivity framework to encourage real-world communication between players
- Utilized AR and physics raycasting to enable player interaction with both real-world and AR objects

Publications

- Zhao, Yuchen, Brandy J. Pettijohn, Amanda Y. Wang, Daniel P. Keehn, Angela Dai, Joy Dang, Janet H. Murray (2021). "Exploring Location-based AR Narrative Design for Historic Site," *PRESENCE*: Virtual and Augmented Reality 2021

Skills

Programming:	Python, C#, Java, JavaScript, HTML, CSS, C++, Swift, GLSL
Frameworks & Libraries:	PyTorch, OpenCV, Scikit, Tensorflow, ARFoundation, Three.js, D3.js, A-Frame, Agile
Tools:	Unity, Vuforia, Blender, SparkAR, Creo, Git, AWS, Docker, Adobe Suite, Visual Studio