Amrit Amar

- Technical contributor who loves learning about and solving challenging problems.
- Passionate about building software that helps people solve real problems in their lives.
- Drawn to systems-level problems involving cross-functional collaboration across several disciplines.
- Thrives in high-ambiguity situations and enjoys early-stage design and development.

Work Experience

Software Engineer

Meta

August 2020 – January 2023

Worked as part of the Reality Lab's Surreal research team on an AR device, Project Aria, for contextualized AI and live mapping research.

- Designed and developed several key features such as telemetry, provisioning (managed and released over 3000 devices), audio, app-device communication, device streaming over Wi-Fi, and multi-sensor time-domain synchronization.
- Maintained a custom AOSP codebase working with native C++ and Java services and wrote Python and Bash scripts for testing various aspects of the device.
- Worked cross-functionally with product designers and managers, operation teams, and data scientists to resolve device bugs and tickets from users.

Student Researcher

Cornell University, Cornell Graphics and Vision Group

October 2019 – June 2020

Worked with Professor Steve Marschner and Professor Bruce Walter on *"Exploring photo-realistic material rendering in VR"* as my Master of Engineering final project.

- Used Unity and GLSL to implement the ellipsoid shading model, a more realistic model than the standard shading models present in graphics applications, particularly with anisotropic surfaces.
- Tested this shading model in a real-time interactive VR environment and compared the look of various materials with the ellipsoid shader in VR to real-life under different lighting conditions.

Software Engineer Intern

Facebook

May 2019 – August 2019

Joined the Facebook Video Livestreaming team.

Contact Info

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Skills

C++ ● Java ● Python ● C#/.Net ● JavaScript ● Jupyter ● Bash ● Unix/Linux ● GitHub ● Unity Game Engine ● AOSP ● SQL

Computer Graphics and Shaders ● AR/VR Design ● Artificial Intelligence ● Machine Learning ● Data Science ● Bio-inspired computing ● Game Design ● Robotics ● 3D Modelling ● Technical Writing ● Teaching and Mentoring

Education

Master of Engineering (M.Eng.), Computer Science

Cornell University

August 2019 – May 2020

Bachelor of Science (B.S.), Computer Science

Cornell University

August 2016 – December 2019

- Implemented MPEG-DASH ingested live video feed for livestreaming using a combination of C++, Java, and Python to improve reliability for live streaming in 3rd-world/developing countries.
- Created an end-to-end working prototype that allows the user to go live from the FBLite app.

Software Engineer Intern

LiveLike

May 2018 – August 2018

Worked on creating AR sport viewing experiences.

- Worked with Unity and ARKit/ARCore to create augmented reality sports viewing experiences for mobile devices.
- Devised ways to show live data and statistics in augmented reality for a major global racing sporting organization.
- Designed and implemented a gamification social platform with friends, chat rooms, and mini games.

Robotics Software Engineer

Cornell University, Robotics Personal Assistants Group

April 2017 – January 2018

- Worked with Professor Ross A. Knepper's research group on creating a Solar-Powered Autonomous Blimp capable of independent flight for extended periods of time.
- Developed higher-level planning algorithms, UI design, and designed communication nodes using ROS.

Augmented Reality Developer

Beyond One

July 2017 – October 2017

- Participated in a VR Summer Bootcamp hosted by DIVR Edu, a startup from Beyond One that creates educational content to teach students in schools.
- Designed VR/AR projects and developed CurioPets, a multiplayer "Pokémon Go + Tamagotchi in AR" iOS game using ARKit.

Awards

- Top Achiever Scholar from Botswana.
- Cornell Computer Science Student Recognition Award for my work at the *Association of Computer Science Undergraduates* (ACM Chapter), 2019.
- Most Innovative Game at the Cornell Games Showcase for *OutOfSync*, 2018.
- Won the "Best Game Programmer in Africa" competitions, 2013 and 2014.
- IT Innovation Award at the *Botho College ICT Linkz Challenge*, 2013.