



Field Session Proposal - Fall 2023

Phone App Development Capture Video for Digital Twin Creation

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About Venvee

Venvee is a Mines-affiliated start-up using spatial AI to collect and understand human behavior in physical spaces. Our current solution provides an end-to-end understanding of in-store customer journeys for the retail industry, using spatial deep learning, computer vision and digital twin construction to produce precise customer pathing and action insight using only a retailer's existing infrastructural/loss prevention cameras.

About the Project - Camera App For Digital Twin Creation

During the process of creating a new digital twin, Venvee requires video recordings of a space. Sending someone out to record this video can be resource intensive, and asking our clients to record and upload footage can be burdensome as well as inaccurate due to human error, especially if they change the space often and we need to update our digital twin.

One solution is to provide access to an app as part of our initial deployment package. A store owner/manager would enter a provided unique passcode, and then record footage of their store per the instructions given on the app. While recording, human error is mitigated by responsive feedback which tells them to slow down, or to re-film an area. Once done recording, the video is automatically uploaded to a secure location in the cloud, associated with their account based on the unique passcode provided.

The team's mission is to create this app!

Using React Native (a well-supported and easy to learn Javascript framework) the team will create a mobile app which collects camera footage with responsive feedback on camera motion. We'll provide you with the definition of done, but you get to decide how you get it done. No prior experience with React Native is necessary, and our CV, ML, and Data developers are happy to provide advisement and guidance as well as bounce ideas with the team.

As a bonus, the team will be asked to experiment with Lidar in addition to video footage!

Desired Skillsets

Curiosity, creativity, problem solving, and the ability to learn fast and from feedback. Other than that, a desire to learn app development, and base level computer vision may be helpful (though not necessary).

Skills You'll Learn

App Development, working with cameras in an app, computer vision and/or phone sensor feedback for video stabilization and user feedback, securely sending video from an app to the cloud including video encryption.

Preferred Team Size

4 students

Where You'll Work

Like all devs at Venvee, students may work wherever they work best! There is an option to work out of the co-working space (the Mines Interim Venture Center) where our primary office is located (1600 Jackson Street, Suite 150), but it is not a requirement. We will plan to meet in this space for check-in meetings, though there is always the option to join via Google Meet.

Post-Field Session

There is a high potential we will offer part-time positions on a fast paced, rapidly growing, fully hybrid, fun, and autonomous team doing cutting edge development in AI and CV (we've hired 4 past field session members).

Team Agreement

Upon joining the team, students will be asked to sign an agreement pertaining to non-disclosure and intellectual property. Though we do not anticipate a strict NDA being required for the work students will perform with this project, we will ask that they sign a limited one so we may more openly share our resources and information with them. This will not restrict students from sharing parts of the project they've worked on for future career opportunities.

This agreement will also ask students to acknowledge that all IP created during this project will be solely owned by Venvee, Inc.. Venvee is happy for students to share the project openly as well as provide reference letters for project work, especially if doing so advances their desired career path.

Proposal Point of Contact

Please send any questions to Torin Johnson - torin@venvee.com