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Ashim Paudel

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EDUCATION

Bachelor's in Computer Science, *Mississippi State University, Starkville, MS* GPA 3.41 May 2022

TECHNICAL SKILLS

Languages: C, C++, Python, Swift, SQL, Bash scripting, MATLAB
Frameworks: OpenCV, Flask, PyTorch, TensorFlow, StereoKit, UIKit, ARKit
Tools & Utilities: AR/VR, Git, Docker, Cloud Platforms (Azure, AWS), Embedded, SDRs

EXPERIENCE

Orbbec Troy, MI
Research Development Software Engineer Jul 2022 — Jan 2024

- Integrated the *'Universal RGB-D to XR Content Generation Engine*' in C++ using OpenCV and Boost for concurrent handling of large RGB-D image data with multi- threading. Used StereoKit to convert processed images into XR rendering materials for seamless viewing across multiple platforms.
- Led the design and implementation of an iOS prototype to capture and transmit synchronized RGB camera and LiDAR depth sensor data over the network to perform real-time stereoscopic 3D reconstruction. Conducted in-depth research on Apple's LiDAR sensor and depth APIs.
- Led the development of The Eye for AIs, an advanced image processing application that isolates objects, computes volumes, and performs detailed analysis using color and depth images from a depth camera. It utilized models like SAM, GPT-4 and BLIP-2 for data segmentation and interpretation, making it ideal for 3D modeling, inventory management, and quality control in manufacturing.
- Collaborated with Nvidia to evaluate compatibility of their body and hand tracking technologies with the new Orin and Jetson Nano platforms.
- Conducted thorough testing of Orbbec SDKs, documenting test cases, outcomes, and error.

Mississippi State University Starkville, MS
Undergraduate Research Assistant Aug 2021 — May 2022

- Worked on software development and research for AERPAW, conducted experiments on 4G/5G wireless technologies srsLTE/RAN, OAI, and Amarisoft to understand and build wireless cellular radio access network and core network technologies.

Mississippi State University Starkville, MS
Software Developer, Team Xipiter Aug 2021 — May 2022

- Implemented the YOLO object detection algorithm using OpenCV in C++ to accurately detect and localize objects in video streams, achieving an average precision of 85% on the COCO dataset.

PROJECTS

- Path Planning using Interactive Application - Built a tool in python that takes in a map image and runs a variety of different path planning algorithms to find the best path between two points while providing an analytical comparison. Tested a variety of algorithms, such as the A* and Dijkstra's algorithm.

AWARDS & ACCOMPLISHMENT

Phi Theta Kappa 2021