Sasidharan Mahalingam

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EDUCATION

University of California - Santa Cruz   **September 2017 – June 2019**
Master of Science in Computer Engineering - Specializing in Computer Vision and Computer Graphics   *GPA: 3.91/4.0*

Sri Krishna College of Engineering and Technology   **August 2012 – April 2016**
Bachelor of Engineering in Electrical and Electronics Engineering- Specializing in Image Processing   *GPA: 8.98/10.0*

EXPERIENCE

VizExperts   **April 2023 – October 2023**
Software Engineer Graphics   *Gurgaon, India*
- Worked in the AR/VR Development Team.
- Did a survey of various available drift correction mechanisms available on AR platforms.
- Implemented a markerless alignment of the real and virtual world for AR platforms.
- Implemented an optimized rendering algorithm for visualizing CAD models on VR platforms.

Garmin   **July 2022 – October 2022**
Software Engineer - II, Graphics   *Olathe, USA*
- Worked in the Graphics Technology Group.
- Worked on fuzz testing and library removals from codebase.

Intel   **August 2019 – July 2022**
Product Development Engineer   *Folsom, USA*
- Worked in the product development team for 3D NAND memory.
- My duties involved working on finding design issues, manufacturing problems and failure analysis in the chip development process.
- Lead the test time reduction of NAND probe process, TrimDB iteration and PLC development

Nvidia   **June 2018 – September 2018**
Software Engineer Intern   *Santa Clara, USA*
- Interned with the VRWorks team.
- Designed color correction algorithms for self-driving cars and parallel implementations of April tag detection.

Aishwarya Enterprises   **April 2016 – August 2017**
Embedded Software Engineer   *Coimbatore, India*
- Worked in the Research and Development team.
- Designed add-on communication systems for outdated CNC machines, that retrieve and store data from FAT32 flash drives using Renesas RL78 microcontrollers.
- I also devised Vehicle Control Units for Truck Mounted Vacuum Cleaners and SCADA systems for wind turbines.

Amazon   **August 2015 – March 2016**
Application Engineer Intern   *Chennai, India*
- Interned with the eBooks team.
- Worked on rectifying bugs, resolving trouble tickets and improving data aggregated from eBook and other digital media interactions.

Analog and Digital Labs   **August 2014 – December 2014**
Research Intern   *Coimbatore, India*
- Interned with the Research team.
- Worked on Automatic Number Plate Recognition System that recognizes number plates at toll gates.

PROJECTS

Face Tracking using Commodity Depth Cameras | *https://github.com/sasidharan-m/MSProject*   **September 2018 – June 2019**
- Developed a face tracking algorithm using Intel Realsense Depth Camera.
- Implemented a novel algorithm that uses Generalized ICP algorithm with a 3D feature based initialization and an added drift correction mechanism
- Developed the program in C++ and used PCL library for 3D pointcloud data processing

3D Scanner   **September 2018 – January 2019**
- Created a 3D scanner that can be used to reconstruct the scanned object using a depth camera
- Wrote the implementation in C++ using PCL library.

3D Camera   **January 2018 – September 2018**
- Created a 3D camera that projects 3D pointclouds unto an image plane while preserving certain characteristics of the geometry of the object
- Wrote the implementation in matlab and created visualization of various 3D scanned objects.

Plane Sweeping Multiview Stereo   **December 2017 – January 2018**
- Implemented a plane sweeping multiview stereo, to determine the depth of different objects by using three pictures of a scene related by rotation and translation
- Wrote the implementation in C++ using OpenCV library.

Image Panaroma of a plane in the real-world   **December 2017 – January 2018**
- Implemented a super-image or panaroma by stitching images that are viewing the same plane in the real world
- Wrote the implementation in C++ using OpenCV library.

Custom Color Constancy Algorithms for Cameras   **September 2017 – December 2017**
- Implemented a custom color correction algorithm for RGB cameras
- Wrote the implementation in C++ using OpenCV library.

Automated Visual Inspection for Quality Control   **December 2015 – March 2016**
- Designed a produce sorting algorithm that uses the color and contour of the produce to sort farm produce.
- Used C++ along with OpenCV libraries for creating the application.
- Used RaspberryPi for implementing the algorithm.

TECHNICAL SKILLS

Languages: C, C++, Python
Technologies/Frameworks: OpenCV, OpenGL, WebGL, CUDA, Matlab, Tensorflow, Unreal Engine, PCL

TEACHING EXPERIENCE

Teaching Assistant   **Spring 2018 – Spring 2019**
Advanced Programming   *University of California - Santa Cruz*
- Taught C++ for undergraduates.
- Conducted lab sessions and graded assignments and examinations.

AWARDS AND ACCOLADES

- Outstanding employee recognition for contributing to five bit per cell technology at Intel Corporation, 2022.
- Best project awards in the Computer Graphics, Artificial Intelligence and Machine Learning courses at UCSC, 2019
- Best Innovative Kart award (nationwide competition) at the Ecokart, 2014
- Placed third nationwide in the Lunar Rover challenge 2014 held at IIT-Chennai
- Co-founder of Zenith-Invaders robotics club and Sri Krishna College of Engineering and Technology (2012 - 2016)