BHARATH SURIANARAYANAN

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EDUCATION

New York University, Graduate School of Arts and Science, New York, NY — December 2022
Master of Science, Computer Science, GPA: 3.857/4
Relevant Coursework: Computer Vision, Advanced Database Systems, Multicore Programming Architecture, Fundamental Algorithms, Programming Languages, Database Systems, Operating System

Vellore Institute of Technology, School of Electronics Engineering, Chennai, India — June 2020
Bachelor of Technology, Electronics and Communication Engineering, GPA: 9.52

TECHNICAL SKILLS

Coding Languages:	C/C++, Python, Java, JavaScript, SQL, R
Tools:	PyTorch, Numpy, Pandas, Matplotlib, OpenMP, AWS
Operating Systems:	Linux, Windows

EXPERIENCE

Computer Vision Research Assistant — June 2021 - present
AI4CE Lab, New York University — *New York, NY*

- Worked on 3D Point Cloud Understanding using seed point proposal technique.
- Achieved significant improvement in instance segmentation and scene abstraction over the baseline architecture on the popular [S3DIS Dataset]
- Submitted the research work to *ECCV 2022*.

Image Processing Intern — Aug 2020 - Jan 2021
Accord Innovations Private Limited — *Bangalore, India*

- Designed an image processing tool to extract 12 parameters from a urine dipstick.
- Examined the metrics which play a crucial role in screening patients to detect early symptoms of acute kidney injury.
- Created presentations to effectively communicate ideas during strategy meetings.

Computer Vision Research Intern — May 2020 - July 2020
Yuan Ze University — *Taoyuan City, Taiwan*

- Developed and tested models for Defect Detection in Steel to achieve an accuracy of 82.5% on the Severstal Steel Dataset using MMDetection.
- Work published in IEEE and presented in ICCE,Taiwan 2021.[Paper Link.]

PROJECTS

Parallelizing N-Body Problem using Barnes-Hut Approximation — Fall 2021

- Implemented the parallel version of N-Body problem using Barnes-Hut Approximation with OpenMP
- Improved the performance of the algorithm by achieving a speedup of 1000 over the sequential version by introducing several optimizations.

Smart Glove for the Visually Challenged — Winter 2019

- Designed a prototype for smart glove to assist the visually challenged in locating objects in an indoor environment with an accuracy of 93% using MobileNet-SSD detection network.
- Collaborated with a team of 3 to implement obstacle detection and voice feedback system to guide the user to the desired location.

Smart Traffic Control System — Winter 2018

- Created a prototype for smart traffic control system to monitor traffic in a 4-way junction.
- Devised an algorithm to estimate traffic density in individual lanes enabling efficiency in the switching of traffic lights.