Raghav Maddukuri

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Education

University of California San Diego — San Diego, CA
Bachelor of Science in Mathematics-Computer Science — *Expected Graduation: 2022*

Experience

UCSD Research Internship — La Jolla, CA
UCSD E4E — *March 2021 - August 2021*

- *Worked alongside Ph.D. students on the FishSense project to create an autonomous underwater vehicle that utilizes the next best view algorithm.*
- *Used computer vision and pre-processing techniques to create a depth map of fish populations to monitor and measure the ocean eco-health*
- *Published a paper to IEEE OES as part of the OCEANS conference in September 2021*
  - *"FishSense: Underwater RGBD Imaging for Fish Measurement"*

Artificial Intelligience Engineer — La Jolla, CA
Triton Robotics — *Dec. 2020 - Present*

- *Specialised in data augmentation via Keras, and Tensorflow to create artificial data to address the lack of data due to Covid-19*
- *Utilised Yolo v4 neural network to create an object detection program to track, and shoot at enemy robots*

Machine Learning Engineer — La Jolla, CA
Triton RoboSub — *Oct. 2020 - Present*

- *Utilized Machine Learning models in combination with gyroscope and accelerometer data to determine checkpoints position and distance*
- *Worked across subteams to deliver an effective Robosub competition robot*
- *Used Ros Noetic to pipeline data from depth cameras to usable data*

Projects

AI Tracks | *OpenCV, Python* — Oct. 2020 - Dec. 2020

- *Utilized OpenCV, background subtraction, and other pre-processing techniques*
- *Trained neural- networks to track a boat on the surface of the water despite occlusion*

Mask Recognizer | *Computer Vision, Machine Learning* — Dec. 2020 - Present

- *Trained and used a convolutional neural network to detect if a person was wearing a mask correctly*
- *Applied the program to a live camera to provide real-time detection of a person wearing a mask.*

Vex Robotics State Champion | *Autodesk Inventor, RobotC* — May 2018 - May 2019

- *Built and programmed competitive robot in a competition involving thousands of teams*
- *Utilized CAD and Unity to model robots, and computer vision for robotic functions*
- *Utilized several forms of machine learning to enhance autonomous programs*

Additional Information

- **Excellent** *work ethic, communication, leadership, teamwork, creativity, organizational skills*
- **Experience with** *Java, Python, C, Anaconda, Tensorflow, OpenCV, Excel, Unix, Bash, Ant, XML, ROS*