# Education

Raghav Maddukuri

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**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*](http://e4e.ucsd.edu/) *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](https://www.semanticscholar.org/paper/FishSense%3A-Underwater-RGBD-Imaging-for-Fish-Tueller-Maddukuri/7041ee7af7dd928b3a8318bebb9ddc80636b88ea)*”*

**Artiﬁcial Intelligience Engineer** La Jolla, CA

[*Triton Robotics*](https://tritonrobotics.org/) *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*](https://robosub.ucsd.edu/) *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**](https://www.challenge.gov/challenge/AI-tracks-at-sea/) **|** *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**](https://docs.google.com/presentation/d/12CWaGCTVzxtft1XOOsKMrRSOh7GMTHvyNs3-etbSkkg/edit?usp=sharing) **|** *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*