# MUKUND SHANKAR

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## EDUCATION

**BSc. Computer Science (Hons.) & Mathematics**, *University of Maryland* Expected May 2025
Minor in Robotics & Autonomous Systems.
5x Dean's List.
Global Communities Honors Program.
Relevant Coursework: Machine Learning, Computer Vision, Data Structures & Algorithms, Real Analysis, OOP.
GPA: 3.58

Nominated by and awarded the Golden Visa by the UAE government under the outstanding student category.

## TECHNICAL SKILLS

**Backend**: Python, Java, C, Ruby, OCaml, HTML, CSS, React, SwiftUI

## EXPERIENCE

**Undergraduate Researcher** July 2023 - Current
University of Maryland Computer Science Department *College Park, MD*

- Research dynamic robots and path planning using reinforcement learning in Dr. Abhinav Shrivastava's lab.
- Developed an algorithm that mapped depth data from cameras to real-life environment using Intel RealSense.
- Used OpenAI's Gym, MuJoco and mapped environments to experiment with Reinforcement Learning.

**Undergraduate Teaching Assistant** August 2022 - Current
University of Maryland Computer Science Department *College Park, MD*

- Teach discussion classes attended by 45 students twice a week, developing course concepts and proctoring quizzes.
- Hold office hours for over 300 students, helping students understand and implement complex Java projects.
- Organize additional review sessions before exams to explain OOP course content to 200+ students.

**Intern and Youth Conference Participant** January 2020
International Renewable Energy Agency *Abu Dhabi, UAE*

- Proposed using AI to predict outages to reroute energy, recognized by Director-General of European Commission.
- 1 of 20 selected based on leadership potential to interact with international dignitaries during debates.
- 1 of 45 selected globally based on academics to engage in debates to present renewable energy solutions.

## PROJECTS

**Aerial Object Detector.** Applied transfer learning techniques on the deep learning YOLOv5 model to identify airborne balloons with a Mean Average Precision score of 91% as part of the Northrop Grumman Innovation Hack Week 2023. *This project won first place in the hackathon.* Code & more details.

**ArnoldAI App.** Developed a tool which curates affordable, healthy meal plans for users. Mobile app in beta release stage. Link to website.

**Heart Disease Prediction Software.** Built a machine learning model which predicts heart disease at 91% accuracy using random decision forests in python in libraries such as numpy, pandas, sklearn, and seaborn.

## EXTRA-CURRICULAR ACTIVITIES

- Engineers Without Borders
- Robotics @ UMD
- UMD Club Tennis

## LANGUAGES

**Fluent** in English, French, Tamil, Hindi/Urdu, **Advanced** in Arabic.