

# UTKAARSH SAHA

ROBOTICS & AUTOMATION UNDERGRAD STUDENT

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Utkaarsh Saha

## EDUCATION

#### **B. Tech in Robotics & Automation** Engineering 9.17 (Till 7th Sem)

Sister Nivedita University, Kolkata 2020-2024

**AISSCE** 

B.D.M International, Kolkata 2020

**AISSE** 90.2%

86.8%

B.D.M International, Kolkata 2018

## SKILLS

- Basic C, C++ and C#
- Basics of Control Systems Theory
- Basic MATLAB & Simulink
- Arduino and ESP 32, ESP 8266
- Basics of Raspberry Pi
- **CAD/CAM and Multibody Dynamics**
- Basic Java and Python
- Basic .NET
- Unreal Engine 4.5+ and Unity 3D
- PCB and Schematic Designing
- Embedded Systems (with 8051, 8085 and 8086)
- Assembly Language (8085, 8086x)

## EXPERIENCE

#### WINTER INTERN ☑

RecurDyn VI [FunctionBay Inc] Dec 2021-Feb 2022 (3 months)

- Interned Under Prof. SK Saha, IITD, Prof SV Shah, IITJ and Dr. P Nandihal, Sister Nivedita University, Kolkata
- Learned and Verified the Multibody Dynamics of Robotic systems via Simulation in MATLAB and using ReDySim.
- The Internship was held in teams, and was required to solve certain problems using the Software provided in a presentation format.

## PROJECTS & ACTIVITIES

THE SNAKE 2

2019-2020

- A re-make of the famous Arcade Game "Snake", made for AISSCE Computer Science Project
- The game was made in Turbo C++, and includes VGA graphics initialization.

MINI-PROJECT: UNDERWATER ROBOT

- A Mini-project as part of the Curriculum for B.Tech.
- Designed a unique form-factor in CAD and researched possible uses.

#### 3RRR PARALLEL ROBOT PRINTER/PLOTTER 2022-Present

- A Project as part of the Curriculum for B.Tech.
- Designed and Researched the Inverse Kinematics and Possible uses.
- Building the Hardware and Calculation of the Inverse Kinematics in **MATLAB**
- Current Progress: Typesetting the Motions to draw various alphabets of the Latin Script in a '14-segment Display' font style

### ML STATEMENT & SENTIMENT CHECKER

- A Windows Form Application that uses Machine Learning to analyze the sentiment of an entered statement.
- With a Model Accuracy of 81.9%.
- Developed using C#, and ML.NET

#### OBSTACLE DETECTING CAR (HOBBY PROJ)

- Obstacle detection car "Oddie", made as a hobby project and displayed in an University Event.
- A Simple 4-wheel drive robot with UNO and L298N and equipped with Ultrasonic and IR sensors.