

Academics

2017-2021	<i>Bachelor of Technology</i> in Computer Science and Engineering , IIT Kharagpur
GPA	9.68/10.0 (Currently Pursuing)
2017	<i>All India Senior School Certificate Examination</i> , St. Columba's School
GPA	97.4%
2015	<i>All India Secondary School Examination</i> , St. Columba's School
GPA	10.0/10.0

Internships

University of Washington, Personal Robotics Lab

May 19 - Jul 19

Guide: Prof. Siddhartha Srinivasa, Boeing Endowed Professor, University of Washington

- Implemented motion planning algorithms on roadmaps sampled in the coupled configuration space of a bi-manual robot.
- Characterized its behaviors and deficiencies and developed algorithms (variants of Conflict Based Search) to address the same.
- Research Areas: Motion Planning, Multi-Agent Pathfinding, Conflict Based Search

Publications

Deep Learning rooted Potential Piloted RRT* for expeditious Path Planning

- Proposed a deep learning based approach to predict the parameters of Potential Field function in the RRT*-APF algorithm.
- Published at 4th International Conference on Automation, Control and Robotics Engineering, 2019 (Shenzhen, China). [PDF]
- Research Areas: Motion Planning, Deep Learning

Work Experience & Projects

Artificial Intelligence Team Member: Kharagpur RoboSoccer Research Group

Mar 18 - Current

Guide: Prof. Jayanta Mukhopadhyay, IIT Kharagpur

- Research Objective: To build and study cooperative multi-agent systems in dynamic adversarial environments.
- Implemented motion planning algorithms and Finite State Machine (FSM) Architecture for RoboCup SSL.
- Research Areas: Multi-Agent Systems, Motion Planning, Robot Soccer

J.A.R.V.I.C. : Just A Rather Very Intelligent Chatbot

Feb 19 - Apr 19

Guide: Prof. Debasis Samanta, IIT Kharagpur and Prof. Priyadarshi Patnaik, IIT Kharagpur

- Developed an automated conversational agent that classifies the emotion of the user and forms replies based on the predicted emotional state of the user.
- Used Seq2Seq and Bayesian Classifier for front end and an android based application created using Android Studio and Java Socket Programming for back end.
- Research Areas: Automated Chatbot, Cognitive Behavioural Therapy, Natural Language Processing

Awards & Achievements

- **RoboCup 2019:** Among top 25 teams across the world that qualified for SSL RoboCup 2019, a 6 vs 6 robot soccer competition.
- Awarded certificate of '**STUDENT PAR EXCELLENCE**' by Computer Science and Engineering Department, IIT Kharagpur for exemplary academic performance.
- **Kishore Vaigyanik Protsahan Yojana Scholar(KVPY):** Secured All India Rank of 298 among 0.05 million applicants. Scholarship awarded to students with talent and aptitude for scientific research by the Government of India.
- **International Collegiate Programming Contest (ICPC) 2018-19:** Honorable Mention at ACM ICPC 2019 Asia Amritapuri Regionals. Best ranked sophomore team from IIT Kharagpur in nationwide prelims.
- **Inter-IIT Cultural Meet, 2017:** Part of gold winning Quiz contingent.

Technical Skills

Programming Languages	C C++ Python
Libraries and Tools	OpenCV PyQt ROS OMPL Boost Numpy Tensorflow
Fields of Interest	Motion Planning Machine Learning Artificial Intelligence Algorithms

Positions of Responsibility

- **Secretary, Code Club, IIT Kharagpur:** A society dedicated to shaping IIT Kharagpur's future in the coding arena. Organized up.AI 2018, the largest Artificial Intelligence and Machine-Learning summit in the state of West Bengal, India.
- **Former Member, Technology Robotix Society, IIT Kharagpur:** Focal point for activities and projects related to robotics in IIT Kharagpur. Organized Robotix 2018, one of India's largest robotics events.
- **Active Member, Quiz Club, IIT Kharagpur:** Responsible for fostering participation and promoting quizzing in IIT Kharagpur.
- Acting as Mentor for freshmen under the aegis of Student Mentor Program organised by Student Welfare Group, IIT KGP.