RKJenamani
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Rajat Kumar Jenamani

Academics

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

Internships

Research Intern, Personal Robotics Lab, University of Washington   **May 19 - Jul 19**

Guide: Prof. Siddhartha Srinivasa, University of Washington

- Implemented and tested Multi Agent Pathfinding algorithms on roadmaps sampled in the configuration space of arms of HERB, a bi-manual robot and in the configuration space of multiple n-links arms.
- Characterized the behaviors and deficiencies of the algorithms with relevance to these multiple high dimensional manipulators and devised efficient algorithms (variants of Conflict Based Search) to address the same.
- Research Areas: Motion Planning, Multi-Agent Pathfinding, Conflict Based Search

Accepted Publications

"Deep Learning rooted Potential Piloted RRT* for expeditious Path Planning"

- **Rajat Kumar Jenamani**, Manjunath Bhat, Snehal Reddy Koukuntala, Shamin Aggarwal, Jayanta Mukhopadhyay.

in: *International Conference on Automation, Control and Robotics Engineering, 2019 (Shenzhen, China).*

Research Areas: Motion Planning, Deep Learning, Randomized Algorithms

Work Experience & Projects

Artificial Intelligence Team Member: Kharagpur RoboSoccer Students' 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 a methodology for multi-agent robot coordination consisting of a Game Analyzer module that dynamically creates tasks along with an Assignment Module that automatically assigns tasks to agents optimally.
- Implemented randomized 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 them.
- Used Bayesian and LSTM based classifiers for sentiment analysis and generated replies using seq2seq models.
- Research Areas: Automated Chatbot, Cognitive Behavioural Therapy, Natural Language Proccessing

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.
- Acting as Mentor for freshmen under the aegis of Student Mentor Program organised by Student Welfare Group, IIT KGP.