Nabanita Paul

Website: https://nabanita-paul.github.io/   Github: https://github.com/nabanita-

EDUCATION	**Indian Institute of Science**, Bangalore,India	Aug 2018 - Present
	Direct PhD Student, Dept. of Computer Science and Automation	
	Advised by Prof. Chiranjib Bhattacharya	CGPA(Best 6): 7.17/10
	B.P.Poddar Inst.Management and Technology, Kolkata,India	2012-2016
	B. Tech in Computer Science and Engineering	CGPA 8.44/10
	D.A.V. Model School, Durgapur,West Bengal,India	2010-2012
	Class XII (Secondary Examination), CBSE	Aggregate: 90.17 %
	Holy Child English Academy, Malda,West Bengal,India	2010
	Class X, ICSE	Aggregate: 96.43 %

WORK EXPERIENCE

Applied Scientist Intern, Amazon , India   **May 19 - Aug 19**
- Worked on algorithms to improve product recommendation on Amazon Marketplace. Formulated a Contextual Bandit (reinforcement-learning) variation of the recommendation problem and created a Proof of Concept using historical data.

Associate Engineer I, Johnson Controls, India   **Jul 16 - Jul 18**
- Created and Maintained Proof of Concept for integrating Data Virtualization tools (Denodo, JBoss, Snaplogic) seeking effective tools to integrate Enterprise Data based on performance, conflicts and logical separation of concerns.
- Implemented a configurable web application for API Registration viewing based for company-wide data.
- Developed dynamic dashboard components that fetched data from IOT devices and designed visualizations based on consumer needs.

Freelance Content Writer   **Jul 13 - Dec 15**
- Developed blog content, case studies for a data-science consultation firm. Also created press releases, product descriptions and news articles.

ACADEMIC PROJECTS

Social Robotics For Autism Spectrum Disorder   *Ongoing*
(https://teaching-through-sar.github.io/)
We are trying to study how to incorporate low cost robotic platforms as Teaching Assistants in Special Education, specifically, institutions dealing with Autism Spectrum Disorder. We have already conducted a field study showing efficacy of such robots in a Special Education School in Bangalore with 6 ASD children. Currently, we are studying algorithms to automate the robot communication (conversation as well as non-verbal gestures) in the above context.

Ethics-Net: Fake News Detection based on Journalism ethics   **2019**
Based on journalism ethics, a cascade ensemble model is designed to detect propaganda, click-bait and emotionally charged language which then classifies a news article as fake or not. We found that the direct classifiers often "memorize" terms and suffer from keyword bias, which our model successfully avoids.

Movie Recommendation Engine   **2016**
A web application which gives personalized movie recommendations based on past user ratings, based on User Based collaborative filtering and Item Based Collaborative filtering. We used Wilson Confidence Interval to rank best movies which balances rating value as well as number of ratings for the particular movie. This avoided the problem of ranking systems of that time where ratings were not normalized.

Line following Robot   **2014**
Created a robot from scratch using IR sensors and Arduino, a micro-controller.

PUBLICATIONS   *Teaching Assistance through Social Robotics for ASD - Toy robot as Speech Buddy and Mini-Drone as Exercise Partner* accepted in Social Robotics for Neurodevelopmental Disorders Workshop in conjunction with the 2020 IEEE International Conference on Robotics and Automation

COURSES
DURING PhD   *(Completed 32 out of 24 credits required)*
• Linear Algebra and Probability   • Design and Analysis of Algorithms • Soft Computing • Machine Learning • Natural Language Understanding • Convex Optimization and Applications   • Advanced Image Processing • Computational Methods of Optimization

TECHNICAL   **Languages :** Python, C, C#, Angular, Java(Core)
SKILLS   **Familiar :** C++, Matlab, Javascript, HTML, CSS

ACHIEVEMENTS • Received a special merit certificate from C.B.S.E. as the top 0.1% students across the country in the subject English Core.
• Secured 2nd position in school in National Science Olympiad as well as National Cyber Olympiad, 2011.
• Represented BPPIMT at TataFirstDot seminar in 2014 on social entrepreneurship for teaching slum children.
• Awarded the 1st prize for creative writing by Rotary club of Malda, West Bengal, India, 2010.
• Selected as the best speaker in school debate held in 2009.