

Sumanta Dey

Ph.D. Scholar, Dept. of CSE

IIT Kharagpur, 721302, India

Email: sumanta.dey@iitkgp.ac.in, sumanta.sunny@gmail.com

Website: <http://cse.iitkgp.ac.in/deysumanta/index.html>

LinkedIn: <https://www.linkedin.com/in/sumanta-dey-73baa419/>

GoogleScholar: <https://scholar.google.com/citations?user=prsEYJcAAAAJ&hl=en>

Mob.: +91 8906225972



I am a Research Scholar (AI Safety) in the Department of Computer Science and Engineering at the Indian Institute of Technology, Kharagpur.

EDUCATIONAL BACKGROUND

- **Indian Institute of Technology Kharagpur** Kharagpur, WB
Ph.D. in AI Safety June 2019 -
(Pursuing)
- **Indian Institute of Technology Kharagpur** Kharagpur, WB
M.Tech in Computer Science July 2017 - 2019
CGPA : 9.22 / 10
- **Bengal College of Engineering and Technology** Durgapur, WB
West Bengal University of Technology 2008 - 2012
B.Tech in Computer Science and Engineering
CGPA : 7.7 / 10

WORK EXPERIENCE

- **Tata Consultancy Services Ltd.** 4 Years and 5 Months
From: 4th-Feb-2013 **To:** 13-July-2017
Projects: Genworth Mortgage Insurance (Canada) - (Role: Java Developer with Oracle DB)

INTERNSHIPS

- **Warwick Manufacturing Group, UK** 2.5 months
The University of Warwick
From: 1st July 2018 **To:** 15th Sept 2018
Projects: Application of Formal Methods for the Safety Assurance of Machine Learned Models
- **Ericsson India Pvt. Ltd, Bangalore** 6 months
From: 18th Oct 2020 **To :** 16th April 2021
Projects: Applying the Adaptive Safety Shield method with the existing RL Algorithms to improve the Cellular Network performance

PUBLICATIONS

- **Identification of Test Cases for Automated Driving Systems Using Bayesian Optimization**
Briti Gangopadhyay and Siddartha Khastgir and Sumanta Dey and Pallab Dasgupta and Giovanni Montana and Paul A. Jennings (2019). In 2019 IEEE Intelligent Transportation Systems Conference, ITSC 2019, Auckland, New Zealand, October 27-30, 2019 (pp. 1961–1967). IEEE.
- **Safety Augmentation in Decision Trees**
Sumanta Dey and Pallab Dasgupta and Briti Gangopadhyay (2020). In Proceedings of the Workshop on Artificial Intelligence Safety 2020 co-located with the 29th International Joint Conference on Artificial Intelligence and the 17th Pacific Rim International Conference on Artificial Intelligence (IJCAI-PRICAI 2020), Yokohama, Japan, January 2021. CEUR-WS.org.
- **Adaptive Safety Shields for Reinforcement Learning-based Cell Shaping**
Sumanta Dey and Anusha Mujumdar and Pallab Dasgupta and Soumyajit Dey (2022). In IEEE Transactions on Network and Service Management, vol. 19, no. 4, pp. 5034-5043, Dec. 2022, doi: 10.1109/TNSM.2022.3194566.
- **Safe Reinforcement Learning through Phasic Safety Oriented Policy Optimization**
Sumanta Dey and Pallab Dasgupta and Soumyajit Dey (2023). SafeAI@ AAI (2023)

TECHNICAL SKILLS

- **Programming Languages:**
C, C++, Java, Python, JavaScript, JSP, HTML, CSS, PL/SQL, SQL
- **Tools/IDEs/Simulators:**
SQL Server, Oracle DB, Cognos, Eclipse, VS Code, Sublime Text, Carla, Car Maker, Power World, Sherlock, Uppaal, Matlab
- **Certification/Courses:**
OCJP, Artificial Intelligence, Machine Learning, Deep Learning, Reinforcement Learning, Formal Methods, Graph Theory, Advanced Design and Analysis of Algorithm, High-Performance Computer Architecture, Distributed Systems

PROJECTS

- **Automatic Text Summarization (B. Tech Project)**
Generating summary by choosing sentences from a large text based on their rank decided by various weighted parameters.
- **Application of Formal Methods for the Safety Assurance of Machine Learned Models (M. Tech Project)**
Modifying the machine learning models to incorporate defined safety constraints such that the model's safety can be formally guaranteed.