

# SURJA SANYAL

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## OBJECTIVE

To enhance and broaden my knowledge and contribute with the same to the scientific community and the society.

To help nourish upcoming scientific brains and direct them towards better utilization of their own capabilities.

## EMPLOYMENT HISTORY

2011 – 2019 **Bio-Statistical Programmer, Data Modeler, and Data Analyst.**  
**Tata Consultancy Services (TCS), Delhi-NCR, India.**

I have worked for a Danish Pharmaceutical Client\* in the Lifesciences domain as a SAS Biostatistical programmer doing data analysis and interpretation to establish the safety and efficacy of upcoming drugs undergoing clinical trials in phases 1, 2, and 3.

I have also worked for an American Insurance Client\* in the Healthcare industry for health related data modeling and trend prediction of US citizens.

\* Names of the organizations have been omitted due to contractual obligations.

## EDUCATION

- 2021 – ... **Ph.D. - Computer Science and Engineering.**  
**Indian Institute of Technology Guwahati, Guwahati, Assam, India.**  
Coursework grade: 8.75 / 10.00  
Research area: *Designing Machine Learning based Security Scheme for Inside and Outside Threat Detection in Industrial IoT Networks.*
- 2019 – 2021 **M.Tech. - Computer Science and Engineering.**  
**National Institute of Technology Durgapur, Durgapur, West Bengal, India.**  
Final grade: 9.28 / 10.00  
Thesis title: *A Game Theoretic Framework for Surplus Food Distribution in Smart Cities and Beyond.*
- 2006 – 2010 **B.E. - Computer Science and Engineering.**  
**University Institute of Technology, The University of Burdwan, Burdwan, West Bengal, India.**  
Final grade: 79.9 %
- 2004 – 2006 **CBSE AISSCE (Class XII) - Physics, Chemistry, Mathematics, Biology, English.**  
**Kendriya Vidyalaya Number 1, Saltlake, Kolkata, West Bengal, India.**  
Final grade: 79.6 %
- ... – 2004 **CBSE AISSE (Class X).**  
**Kendriya Vidyalaya Number 1, Saltlake, Kolkata, West Bengal, India.**  
Final grade: 82.8 %

## RESEARCH PUBLICATIONS

### JOURNAL ARTICLES

- 1 Sanyal, S., Mukhopadhyay, S., & Xhafa, F. (n.d.). Enhanced incentive schemes for volunteers to distribute surplus food in smart cities. *Available at SSRN 4179125*.
- 2 Sanyal, S., Kumar Singh, V., Xhafa, F., Sanyal, B., & Mukhopadhyay, S. (2021). A game theoretic framework for surplus food distribution in smart cities and beyond. *Applied Sciences*, 11(11), 5058.

### CONFERENCE PROCEEDINGS

- 1 Sanyal, S., Mukhopadhyay, S., Xhafa, F., Singh, V. K., & Sanyal, B. (2022). An incentive framework for surplus food distribution in the context of smart cities. In *International conference on network-based information systems* (pp. 35–47). Springer.

## ACADEMIC INTERESTS

- |                    |               |                         |
|--------------------|---------------|-------------------------|
| Internet of Things | Game Theory   | Smart devices           |
| Machine Learning   | Deep Learning | Artificial Intelligence |

## NON-ACADEMIC INTERESTS

- |                        |              |          |
|------------------------|--------------|----------|
| Science and Technology | Martial Arts | Swimming |
| Social activities      | Football     | Cricket  |
| Lawn Tennis            | Table Tennis | Running  |

## SKILLS





- |           |   |
|-----------|---|
| Languages | Strong reading, writing and speaking competencies for English, Hindi, Bengali.  |
| Coding    | Python 3.10, Cython 3.0, Matlab, Base & Advanced SAS, C++, Linux, UNIX, VBA, SQL, $\text{\LaTeX}$ .   |
| Tools     | Jupyter, Spyder, IDLE, Matlab, SAS University Edition, SAS Life Science Analytics Framework, Overleaf, TeX Studio, MySQL, MS Visual Basic, MS Excel, MS Word, Putty, Aginity Workbench, Data Transformer, LotusNotes. |

## MISCELLANEOUS EXPERIENCE












### AWARDS AND ACHIEVEMENTS

- |      |  |
|------|--|
| 2019 | <b>Participation Award:</b> Several competitive and charitable running events.   |
|      | <b>Service &amp; Commitment Award:</b> Recognizing my persistent contributions to the organization.                      |
| 2017 | <b>Merit Award:</b> Numerous On the Spot awards for outstanding individual contributions.                                |
| 2016 | <b>Service &amp; Commitment Award:</b> Recognizing my persistent contributions to the organization.                      |
|      | <b>Merit Award:</b> Numerous On the Spot awards for outstanding individual contributions.                                |
| 2015 | <b>Merit Award:</b> Numerous CLP Faculty awards for distinguished contribution towards knowledge building of associates. |
|      | <b>Merit Award:</b> Numerous On the Spot awards for outstanding individual contributions.                                |
| 2014 | <b>Merit Award:</b> Numerous CLP Faculty awards for distinguished contribution towards knowledge building of associates. |

## MISCELLANEOUS EXPERIENCE (continued)

- 2013  **Service & Commitment Award:** Recognizing my persistent contributions to the organization.
- 2013  **Merit Award:** Numerous CLP Faculty awards for distinguished contribution towards knowledge building of associates.
- 2011  **Merit Award:** Best Team of the Year in TCS Delhi-NCR region.
- 2006  **Merit Award:** Multiple Maths and Science Olympiads during my schooling.

## CERTIFICATIONS AND TRAINING

- 2022  **Certified Karate Trainer and Fight Judge:** *Entry Level Kumite (fight) Judge* certified by the *Karate India Organization (KIO)* affiliated with the *Asian Karate Federation (AKF)* and the *World Karate Federation (WKF)*, recognized by the *International Olympic Committee (IOC)*.
-  **Certified Karate Practitioner:** *Black Belt Second Dan* awarded by the *Traditional Shito-Ryu Karate Do Association (India)*, *TSKA*, approved by the *Karate India Organization (KIO)*, affiliated with the *World Karate Federation (WKF)*, recognized by the *International Olympic Committee (IOC)*.
-  **Active participation in lecture:** *On AI-Driven Networks for Earth and Space* conducted by *Indian Institute of Technology Guwahati, India* in collaboration with the *University of Illinois at Urbana Champaign (UIUC), USA*.
-  **Certified participation in three day Workshop:** *On Scaling Blockchains: From Bitcoin to the Lightning Network* conducted by the *Indian Institute of Technology Guwahati, India* in collaboration with the *University of Catania, Italy*.
-  **Certified participation in ISEA Virtual Presentation Conclave (IVPC-2022):** *On Modeling Attacks on Physically Unclonable Functions (PUFs) and Open Trustless Blockchains: Security Trade-offs* conducted by the *Indian Institute of Technology Guwahati, India* in collaboration with the *Ministry of Electronics and Information Technology (MeitY), Government of India*.
-  **Active participation in webinar:** *On Healthcare IoT* conducted by the *Indian Institute of Technology Guwahati, India* in collaboration with the *IEEE Communication Society, Technical Committee on eHealth: Special Interest Group on 'IoT for eHealth' and Technical Committee Green Computing and Communications: Special Interest Group on 'Pandemics'*.
-  **Certified in Community Services:** Active participation in social service ventures conducted across the state of Assam, India organized by the *National Service Scheme (NSS) cell* at the *Indian Institute of Technology Guwahati, India*.
- 2021  **Certified participation in 4.0 Tech Online Bootcamp:** *On AI and ML, Cyber Security, IoT, Data Science, Augmented Reality (AR) and Virtual Reality (VR), Blockchain, Full Stack* conducted by the *Indian Institute of Technology Guwahati, India* in collaboration with *NxtWave, CCBP 4.0 Certification Programs*.
-  **Certified participation in webinar:** *On Research Opportunities in Wind Technology* conducted by the *Indian Institute of Technology Guwahati, India* in collaboration with *National Institute of Wind Energy (NIWE), Chennai, India*. with the support of the *Ministry of New and Renewable Energy (MNRE), Government of India*.
- 2019  **Certified Karate Practitioner:** *Black Belt First Dan* awarded by the *Traditional Shito-Ryu Karate Do Association (India)*, *TSKA*, approved by the *Karate India Organization (KIO)*, affiliated with the *World Karate Federation (WKF)*, recognized by the *International Olympic Committee (IOC)*.
- 2006  **Certified Swimmer:** Awarded by the *National Swimming Club, Kolkata, India*.

## ABOUT ME

- Team player with leadership qualities
- Very active and adapt to new settings
- Learn fast, both actively and passively
- Can always get tasks done
- Enthusiastic about interesting work
- Science and technology enthusiast
- Get quality productive very early
- New undone challenges interest me
- Very punctual and adhere to timelines
- Knack to outperform expectations

## REFERENCES

### Prof. Sukumar Nandi

Senior Professor,  
Department of Computer Science and Engineering,  
Indian Institute of Technology Guwahati,  
Guwahati, Assam, India.

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### Dr. Mamata Dalui Chakraborty

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### Dr. Shibakali Gupta

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