

# Atonu Ghosh

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Midnapore, West Bengal, 721102, India



## Employment History

- 27/10/2022 – 31/12/2023    **Senior Research Fellow, Indian Institute of Technology Kharagpur** in MeitY sponsored project entitled "TribeConnect: Integrated Smart Tribal Eco-Platform – A Proof of Concept in Chhattisgarh".
- 22/10/2020 – 22/10/2022    **Junior Research Fellow, Indian Institute of Technology Kharagpur** in MeitY sponsored project entitled "TribeConnect: Integrated Smart Tribal Eco-Platform – A Proof of Concept in Chhattisgarh".

## Education

- 2021 - Present    **Ph.D., Computer Science & Engineering**,  
Supervisor: Prof Sudip Misra,  
Indian Institute of Technology Kharagpur, West Bengal, India.
- 2020    **Master of Technology, Computer Science & Engineering**,  
Maulana Abul Kalam Azad University of Technology (formerly WBUT), West Bengal,  
India.  
8.93 / 10
- 2017    **Bachelor of Technology, Computer Science & Engineering**,  
Institute of Engineering & Management, West Bengal, India.  
7.71 / 10

## Patents

### Filed

- 1 S. C. Misra, D. Das, S. Misra, V. Udutalapally, **A. Ghosh**, and T. Pan, "Wireless network device for wireless communication with user devices in a wireless communication network," Indian Patent, File No.: 202311028663, Apr. 20, 2023.
- 2 **A. Ghosh**, S. Misra, A. Roy, and A. Mukherjee, "A system for remote monitoring, actuation and data prediction," Indian Patent, File No.: 202231040824, Jul. 17, 2022.
- 3 S. C. Misra, D. Das, V. Udutalapally, S. Misra, N. Sengar, and **A. Ghosh**, "Blockchain-enabled iot system and method for securing real time data in a microcontroller-based blockchain network," Indian Patent, File No.: 202211070221, Dec. 6, 2022.
- 4 S. Misra, S. Pal, and **A. Ghosh**, "Modularized iot-based on-demand ambulatory hospital recommender system," Indian Patent, File No.: 202231008007, Feb. 15, 2022.
- 5 S. Misra, D. Das, V. Udutalapally, **A. Ghosh**, and P. K. Deb, "A secured edge-based automated power control and communication system for legacy iot infrastructures," Indian Patent, File No.: 202131038016, Aug. 23, 2021.

## Research Publications

## Journal Articles

- 1 **A. Ghosh**, S. Misra, V. Udutalapally, and D. Das, "Loraute: Routing messages in backhaul lora networks for underserved regions," *IEEE Internet of Things Journal*, pp. 1–1, 2023. [DOI](#): 10.1109/JIOT.2023.3281941.
- 2 **A. Ghosh**, S. Misra, and V. Udutalapally, "Multiobjective optimization and sensor correlation framework for iot data validation," *IEEE Sensors Journal*, vol. 22, no. 23, pp. 23 581–23 589, 2022. [DOI](#): 10.1109/JSEN.2022.3215993.
- 3 **A. Ghosh**, A. Mukherjee, and S. Misra, "Sega: Secured edge gateway microservices architecture for iiot-based machine monitoring," *IEEE Transactions on Industrial Informatics*, vol. 18, no. 3, pp. 1949–1956, 2022. [DOI](#): 10.1109/TII.2021.3102158.
- 4 **A. Ghosh**, R. Saha, and S. Misra, "Persistent service provisioning framework for iomt based emergency mobile healthcare units," *IEEE Journal of Biomedical and Health Informatics*, vol. 26, no. 12, pp. 5851–5858, 2022. [DOI](#): 10.1109/JBHI.2022.3172624.






## Conference Proceedings

- 1 **A. Ghosh**, D. De, and K. Majumder, "A systematic review of log-based cloud forensics," in *Inventive Computation and Information Technologies*, Singapore: Springer Singapore, 2021, pp. 333–347. [DOI](#): 10.1007/978-981-33-4305-4\_26.
- 2 **A. Ghosh**, K. Majumder, and D. De, "Android forensics using sleuth kit autopsy," in *Proceedings of the Sixth International Conference on Mathematics and Computing*, Singapore: Springer Singapore, 2021, pp. 297–308. [DOI](#): 10.1007/978-981-15-8061-1\_24.
- 3 **A. Ghosh**, "Intelligent appliances controller using raspberry pi," in *2016 IEEE 7th Annual Information Technology, Electronics and Mobile Communication Conference (IEMCON)*, 2016, pp. 1–5. [DOI](#): 10.1109/IEMCON.2016.7746253.

## Book Chapters

- 1 **A. Ghosh**, K. Majumder, and D. De, "A systematic review of digital, cloud and iot forensics," in *The "Essence" of Network Security: An End-to-End Panorama*, Singapore: Springer Singapore, 2021, pp. 31–74, ISBN: 978-981-15-9317-8. [DOI](#): 10.1007/978-981-15-9317-8\_2.

## Technical Skills

Solution Development	 Full Stack IoT Software and Hardware, Condition Monitoring, Hands on Cloud & Edge.
Coding	 Python, C, SQL.
Databases	 MySQL, SQLite, InfluxDB.
Web Dev	 Docker, Django, Web API, HTML, CSS, JavaScript, Apache Web Server, NGINX.
Misc.	 Academic research, Product architecting & development, Server and network configuration.

## Experiences

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### Product Development

2020 - Present

📖 **System Architect**, SensorDrops Networks Pvt. Ltd., Indian Institute of Technology Kharagpur.

- Edge and Machine Learning (ML) based intrusion detection and GSM-based alert system.
- Retrofitting PLC and hand-held gauge to automate iron pipe coating thickness measurement.
- Retrofitting an electrical power station to enable remote monitoring and alerts.
- Retrofitting 4-20 mA-based gas sensors to realize an IoT system.
- Warehouse condition monitoring system.

### NPTEL Teaching Assistantship

January - April, 2024

📖 **Introduction To Internet Of Things**, Prof. Sudip Misra, National Programme on Technology Enhanced Learning (NPTEL), Indian Institute of Technology Kharagpur.

July - October, 2023

📖 **Introduction To Internet Of Things**, Prof. Sudip Misra, National Programme on Technology Enhanced Learning (NPTEL), Indian Institute of Technology Kharagpur.

January - April, 2023

📖 **Introduction To Internet Of Things**, Prof. Sudip Misra, National Programme on Technology Enhanced Learning (NPTEL), Indian Institute of Technology Kharagpur.

### Institute Teaching Assistantship

Autumn, 2023 - 2024

📖 **Programming and Data Structure Laboratory**, Prof. Sudip Misra, Indian Institute of Technology Kharagpur.

Spring, 2023 - 2024

📖 **Programming and Data Structure Laboratory**, Prof. Sudip Misra, Indian Institute of Technology Kharagpur.

Autumn, 2022 - 2023

📖 **Ubiquitous Computing**, Prof. Sudip Misra, Indian Institute of Technology Kharagpur.

Spring, 2022 - 2023

📖 **Programming and Data Structure Laboratory**, Prof. Sudip Misra, Indian Institute of Technology Kharagpur.

📖 **Computer Networks Laboratory**, Prof. Sudip Misra, Indian Institute of Technology Kharagpur.

Autumn, 2021 - 2022

📖 **Programming and Data Structure Laboratory**, Prof. Sudip Misra, Indian Institute of Technology Kharagpur.

Spring, 2021 - 2022

📖 **Computer Networks Laboratory**, Prof. Sudip Misra, Indian Institute of Technology Kharagpur.

## References

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Available on Request