

Partha Pratim Ray

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Google Scholar: <https://scholar.google.com/citations?user=ioplfagAAAAJ>

Summary

11+ years of experience in Edge Computing, IoT, Edge-AI Analytics, Edge-Cloud Integration, AI in Innovation, Pervasive AI, Generative AI in multiple organizations including academia and applied Industry 4.0. Having strong hands-on technical and leadership knowledge in IoT ecosystem development and management. Published more than 105 journal and 29 conference articles and 3 book chapters, filed 7 national patents and wrote 7 books. Volunteered in IEEE CTSoc, IEEE DewCom STC. Collaborative work experience with reputed international organizations.

Skills

IoT Programming: Arduino IDE, Thonny Python IDE, Lua, FreeRTOS, C

IoT Cloud: ThingSpeak, ThingsBoard, ThingWorx, IBM Watson IoT, Arduino Cloud, Carritos, Nimbits, Plotly, Temboo, Xively, Ayla's Cloud Fabric, Sensor Cloud, TheThingsIO, SeeControl

Microcontroller: Arduino Uno, Arduino Nano, Arduino Mega, Arduino Nano 33 BLE Sense, Wemos D1 Mini, ESP8266, ESP32, NodeMCU, BLEduino, Arduino YUN, Lilypad, Arduino Duemilanove, Arduino MKR1000, Raspberry Pi, Raspberry Pi Pico, PHPoC, Digistamp ATtiny 85, 8051, Intel Galileo

Edge Analytics: PubNub, EON Visualizer API, Node.js, Johnny-Five, Chart.js, Socket.io, Express Server, Flot.js, jQuery, Apache Edgent

Python: Pandas, NumPy, scikit-learn, Seaborn, Matplotlib, PCA, Regression, Classification, Clustering

R: Anomaly Detection, Time Series Forecasting

Generative AI: ChatGPT, Custom ChatGPT Design, ChatGPT Data Analytics, ChatGPT API Integration

Communication: MQTT, GPIO, Bluetooth, WiFi, nRF24L01 2.4GHz, GSM, RF 433MHz, Serial, LoRa, I2C, UART, SPI, Visible Light Communication

Research & Publication: Literature Review, Literature Survey, Systematic Analysis, Meta Analysis, SWOT Analysis, Research Article, Latex

Experience

Sikkim University (Central University)

July, 2012 - Till Date

Assistant Professor

- Facilitated student learning as a researcher, providing guidance and mentorship.
- Led the consultancy for the establishment of Intel IoT Center.
- Ensured successful implementation and strategic development.
- Provided key inputs in policy making and entrepreneurship cell monitoring.

Surendra Institute of Engineering and Management

January, 2012 - June, 2012

Assistant Professor

- Dispensed as a researcher and guided students towards learning.

Education

Sikkim University, PhD

Pursuing

Major: IoT and AI

West Bengal University of Technology, M.Tech.

November, 2011

Major: Embedded Systems (9.60 DGPA)

West Bengal University of Technology, B.Tech.

August, 2008

Major: Computer Science and Engineering (8.15 DGPA)

Projects

- Pioneered the design of a Leaf Monitoring System for plant health temperature assessment using IoT.
- Engineered a web-based information system for medicinal and aromatic plants using React and GitHub hosting.
- Orchestrated the development of a web-based application for a pipeline inspection robot utilizing IoT technology.
- Spearheaded the creation of a smart irrigation system leveraging IoT capabilities.
- Founded the Intel IoT Center, establishing a cornerstone for IoT innovation.
- Directed comprehensive studies on time series databases tailored for IoT applications.
- Innovated a second-generation smart irrigation system with enhanced IoT integration.
- Championed the development of a web-based application for dynamic graphical data visualization using TypeScript.
- Conceptualized Boilerplate-as-a-Service for real-time health monitoring through IoT.
- Devised a strategy for electronic health record transmission over a blockchain-assisted decentralized network using IPFS.
- Analyzed and refined rating algorithms for e-commerce business sites, boosting operational efficiency.
- Led the deployment of Apache Edgent, enhancing IoT design functionalities.
- Developed an interoperable and heterogeneous IoT smart gateway, facilitating seamless device communication.
- Masterminded the design of an IoT-based autonomic robot, integrating cutting-edge technology.
- Deployed visible light communication between two IoT devices using 650nm laser.
- Created an engaging Android quiz application, enhancing user interaction and learning.

Certifications

- Completed Mastering Digital Twins, accredited by Coursera June, 2019.
- Certified Blockchain Expert-V2, accredited by the Blockchain Council, during October, 2018.
- Completed Blockchain and Bitcoin Fundamentals, accredited by Udemy during October, 2018.
- Completed Blockchain Advanced Level: Uses Beyond Bitcoin 2018, accredited by Udemy during October, 2018.

Awards

- Earned recognized as Top 2% Scientists by the Stanford University during 2020 - 2023.
- Secured the "IEI Young Engineers Award 2019-20" in 2020.
- Awarded the "Emerald Literati Awards" in 2019.
- Achieved the "Young Scientist" award in 2017.
- Bestowed with the "Bharat Vikas Award" award in 2017.
- Achieved "Academic Excellence Awards" award in 2017.
- Attained the "Young Achiever Award" award in 2018.
- Selected for the Science Academies' Summer Research Fellowship Programme in 2013.
- Awarded a Post Graduate Scholarship during 2009 - 2011.