



## DR. TAPALINA BHATTASALI, SMIEEE

Head, Information Technology & Assistant Professor

Postgraduate & Research Department of Commerce

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Citations: 628; h-index:12; i10 index:14

ResearchGate: <https://www.researchgate.net/profile/Tapalina-Bhattachasali>

Research Interest Score: 308.7; Citations: 448; h-index:12

DBLP: <https://dblp.org/pid/54/10544.html>

AD Scientific Index: <https://www.adscientificindex.com/scientist/tapalinabhattachasali/435314>

LinkedIn: <https://www.linkedin.com/in/dr-tapalina-bhattachasali-0429ba42/>

Personal Website: <https://sites.google.com/view/tapalinabhattachasali/home?authuser=1>

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Dr. Tapalina Bhattachasali is a dedicated academician and interdisciplinary researcher with over 15 years of experience in higher education and two years in the industry. She currently serves as Assistant Professor-II and Head of Information Technology at the Postgraduate and Research Department of Commerce, St. Xavier's College (Autonomous), Kolkata. Her academic and research pursuits reflect a steadfast commitment to leveraging technology for societal advancement. Her doctoral research, conducted in collaboration with AGH University of Science and Technology, Poland, focused on designing a secured IoT framework for healthcare applications— an endeavour that earned her a Ph.D. in Computer Science. Dr. Bhattachasali also holds an M.Tech in Information Technology and an MBA in Marketing, equipping her with a solid foundation in both technical innovation and strategic management. Dr. Bhattachasali's areas of expertise includes Artificial Intelligence, Machine Learning, Data Science and Analytics, Cybersecurity, Cloud-IoT integration, Blockchain, Gender Studies, Education 5.0, Industry 5.0, Society 5.0, Sustainable Development Goals. Her multidisciplinary approach has positioned her as a thought leader and influencer in emerging technological domains. Her scholarly output includes over 60 publications in reputable national and international journals, edited volumes, and conference proceedings. She is also the author of two reference books, the editor of two international volumes and the holder of both national and international patents. Dr. Bhattachasali served as a Visiting Research Associate at Bialystok University of Technology, Poland, and her pioneering work in rural healthcare systems in India has received international commendation, notably from the IEU, Maldives. Among her various accolades, the Young Researcher Award conferred by the Global Outreach Research and Education Society stands out, alongside several

other national and international honors. Dr. Bhattasali plays a vital role in scholarly publishing as an editor and reviewer for prestigious journals from IEEE, Springer, and Inderscience. She is a Senior Member of IEEE, ACM and an active member of several professional bodies such as Society for Data Science, Internet Society, Cryptology Research Society of India, Analytics Society of India. Her research collaborations with institutions in Poland and Azerbaijan, coupled with her frequent invitations as a keynote speaker and resource person at various national and international forums, underscore her leadership and continued impact in academia and beyond.

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### Academic Profile

- PhD in Computer Science and Engineering
- MBA in Marketing
- UGC NET in Computer Science and Applications
- M. Tech in Information Technology
- Master of Computer Applications

### Research Areas

Sustainability, Digital Inclusion, Gender Digital Divide, Education 5.0, Industry 5.0, Society 5.0 and SDG 2030, Technological Innovation for Societal Benefits, Artificial Intelligence, Machine Learning, Deep Learning, Computational Intelligence, Data Science & Analytics, Blockchain, High Performance Computing, Cloud-IoT, Biometrics

### As A Resource Person:

#### International Events

- Invited as the **Session Chair** at Sixth International Conference on Soft Computing and its Engineering Applications in December 2024.
- Invited for Technical Session on Hands-on Demonstration of “Generative AI Tools for Research, Administrative Work and Business in Higher Education Institutes” at JHEASA North Zone Conference 2023 on Artificial Intelligence and the Future of Higher Education in October 2023 at St. Xavier’s University, Kolkata.
- Delivered invited lecture on “Basics of Research Methodology and Manuscript Writing” in International Webinar organized by Research Circle in March 2022.
- Delivered invited lecture on “Blockchain Demystified”, in International Webinar (Online) organized by Azerbaijan High Performance Computing Group (AzHiPC), Azerbaijan State Oil and Industry University, Baku in June 2021.
- Delivered invited lecture on “Multi-Layer IoT Framework”, in International Webinar (Online) organized by Operational Research and Artificial Intelligence (ORAI) group, Poznan University of Technology, Poland in June 2021.
- Delivered keynote speech on “Impact of Blockchain in Current Scenario” in International Interdisciplinary Conference (Virtual Mode), Sanyog 2020 in June 2020.

- Delivered invited lecture on “Biometrics Applications for Cloud Environment” in International Summer School on Medical and Biomedical Image Analysis with the Optimization for Cloud and Parallel Programming organized by AGH University of Science and Technology and Motorola, Poland in Krakow, Poland in September 2015.

### National Events

- Invited as the **Session Chair** at Annual International Research Conference 2025 organized by the School of Business, RV University, Bengaluru in collaboration with Coursera and ISDC-ACCA on “Disruptive Artificial Intelligence and Its impact on Businesses, Consumer Culture & Society”.
- Invited as the Resource Person of 2-Days Workshop on “AI and Digital Content Creation”, organized by EMRC, St. Xavier’s College (Autonomous), Kolkata in August 2024.
- Invited as the Resource Person of 5-Days FDP on “Empowering Educators with AI and ML: Strategies and Applications”, organized by Department of CSE, KLH University, Hyderabad in collaboration with IEEE KLHSB in July 2024.
- Invited for Technical Session on “Essential Digital Skills” under the aegis of Skill India in July 2024.
- Delivered invited lecture on Annual Day Celebration of Kolkata Nivedita Shakti in association with CSIR Jigyasa Program at CSIR Indian Institute of Chemical Biology in June 2024.
- Invited as the Resource Person of One Week Online FDP on “Applications of AI/ML” organized by Department of Computer Application, Narula Institute of Technology in February 2024.
- Delivered invited lecture on “Research Methodology Demystified” organized by Dayananda Sagar University in July 2022.
- Delivered invited lecture on “Data Analytics Demystified” at Techvista 2022 organized by The Bhopal School of Social Sciences in May 2022.
- Delivered guest lecture on “Exploring Data Science & Analytics” organized by Department of Computer Science, Heritage College, Kolkata in March 2022.
- Invited at State level Panel Discussion on “Cyber-Crime, Cyber Bullying and Anti- Ragging” organized by Subarnarekha Mahavidyalaya in January 2022.
- Delivered keynote lecture on “Emerging Trends in Technology” at National Workshop Techno-Cambiar 2021 organized by The Bhopal School of Social Sciences in December 2021.
- Delivered invited lecture on “Intellectual Property Rights” at One Week Management Development Programme in November 2021.
- Delivered invited lecture on “Disruptive Technologies for Societal Benefits” at One-Week National Level Faculty Development Programme in September 2021.
- Delivered invited lecture on "Application of Python in Computational Physics" in a webinar organized by Department of Computer Science and Physics, Heritage College, Kolkata in February 2021.
- Delivered invited lecture on "Research Methodology" in a National Webinar organized by Department of Electrical & Electronics, New Horizon College of Engineering

(Autonomous), Bangalore in association with IEEE NHCE Student branch in December 2020.

- Delivered invited lecture on "Intellectual Property Rights in Research, Innovation and Development" in a National Webinar organized by Entrepreneurship Development Cell, The Bhopal School of Social Sciences in December 2020.
- Delivered invited lecture on "Demystifying AI-ML-DL" in a National Webinar organized by Department of Computer Science and Engineering, KL University, Hyderabad in October 2020.
- Delivered invited lecture on "Impact of Artificial Intelligence in Post COVID Era" in a National Webinar organized by SREC CSI Student branch & Department of Computer Science & Engineering, Shri Ramakrishna Engineering College (Autonomous), Coimbatore in September 2020.
- Delivered keynote speech on "Online Teaching Learning Model for Rural India: A New Normal in Post-COVID Era", in a State-Level Online Workshop organized by IQAC, Balagarh Bijoy Krishna Mahavidyalaya, West Bengal in September 2020.
- Delivered invited lecture on "Emerging Technologies in Computation" in a National Webinar organized by Department of Computer Science, Desh Bhagat University, Punjab in May 2020.
- Delivered invited lecture on "Understanding Plagiarism" at one day National Workshop on "Plagiarism and Academic Integrity" organized by St. Xavier's College (Autonomous), Kolkata in August 2019.
- Delivered invited lecture on "SEM: A Retrospection Through R" at UGC approved seven-day National Workshop on Quantitative Research Methodology organized by St. Xavier's College(Autonomous), Kolkata in collaboration with Institute of Development Studies (IDSK), Kolkata in August 2019.
- Delivered invited lecture on "The Future Scope of Blockchain Technology", at Global Outreach Research and Education Summit & Awards 2019, organized by Global Outreach Research & Education Association (GOREA) in Hyderabad in April 2019.

### **Publication (Selected)**

#### **Patent**

- International: Australian Patent on "Method and System for Prediction of COVID 19 through X-Ray Images using Deep Learning"
- National: Indian Patent on "A Novel Approach of Face-Mask Detection"

#### **Peer Reviewed Journal**

- Tapalina Bhattasali, K. Saeed, "Typing Pattern Analysis for Fake Profile Detection in Social Media", Springer, LNCS, 2021 (SCOPUS indexed and UGC-Care Listed). This research work was supported by research grant from Bialystok University of Technology, Poland and Ministry of Science and Higher Education in Poland.
- S. R. Nazar, Tapalina Bhattasali "Sentiment Analysis of Customer Reviews", Azerbaijan Journal of High-Performance Computing, June 2021.

- Tapalina Bhattasali, "Intrusion Detection Framework for Geo-Sensor Network", special issue of Azerbaijan Journal of High-Performance Computing, December 2020.
- M. Das Nath, Tapalina Bhattasali, "Anomaly Detection Using Machine Learning Approaches", special issue of Azerbaijan Journal of High-Performance Computing, December 2020.
- Tapalina Bhattasali, "Pandemic Analytics to Assess Risk of COVID-19 Outbreak", Azerbaijan Journal of High-Performance Computing, June 2020.
- M. Das Nath, Tapalina Bhattasali, "Impact of Blockchain to Secure E-Banking Transaction", International Journal of Computer Science and Engineering (IJCSE), May 2019.
- Tapalina Bhattasali, "SeDReS: Secured Data Retrieval Service", Azerbaijan Journal of High-Performance Computing, June 2019.
- Tapalina Bhattasali, "A New Interaction Model for Mapping Cloud Flow to Virtual Machine", International Journal for Research in Engineering Application and Management (IJREAM), 2018.
- Tapalina Bhattasali, R. Chaki, N. Chaki, K. Saeed, "An Adaptation of Context and Trust Aware Access Control for Remote Healthcare", International Journal of Software Engineering and Knowledge Engineering (IJSEKE), 2018.

#### **Edited Book**

- Shumayela Hasan, Tapalina Bhattasali, Digital Media Economy (2022), Asian Press Book, ISBN: 978-93-92288-47-0.
- Dominic Savio, SJ, Joseph Kulandai, SJ, Peter Arockiam, SJ, Tapalina Bhattasali, Emerging Issues in Commerce, Environment, Economics and Management (2022), INSc Publishers, ISBN: 78-68576-269-8.

#### **Book Chapter**

- Tapalina Bhattasali, S. Xavier, "Impact of Disruptive Technologies on Society to Combat Pandemics", In: Evolution of Digitized Societies through Advanced Technologies (Ed.), Springer, August 2022.
- Tapalina Bhattasali, S. Xavier, "Study of Disruptive Technologies for Sustainable Agriculture", In: Artificial Intelligence and Smart Agriculture Technology (Ed.), CRC Press, 2022.
- Tapalina Bhattasali, S. Xavier, "Technological Innovations for Environmental Sustainability", In: Go Green For Environmental Sustainability, CRC Press, July 2021.
- Tapalina Bhattasali, "Cryptocurrency in E-Commerce Sector", In: Cryptocurrency- A Bright Future or Just a Fad, The Bhopal School of Social Sciences, 2021.
- Tapalina Bhattasali, "Impact of COVID-19 Pandemics on E-Commerce Sector", In: Re-imagining the New Normal- The transformational lens of COVID -19, The Bhopal School of Social Sciences, 2020.
- Tapalina Bhattasali, R. Chaki, K. Saeed, N. Chaki, "Typing Signature Classification Model for User Identity Verification", In: Advanced Computing and Systems for Security, Springer, Advances in Intelligent Systems and Computing, 2018.

- Tapalina Bhattasali, M. Chakraborty, N. Chaki, "Future Trends in WAN", In: Intrusion Detection in Wireless Ad-Hoc Networks, CRC Press, 2014.

### **Book**

- K. Saeed, M. Adamski, Tapalina Bhattasali, M.K. Nammous, P. Panasiuk, M. Rybnik, S.H. Shaikh, New Directions in Behavioural Biometrics, CRC Press, 2016 (Scopus Indexed).
- Tapalina Bhattasali, Hierarchical LIMOS Model for Heterogeneous Wireless Sensor Network: Energy Efficient Secure System Model for Wireless Sensor Network, published by Lambert Academic Publishing (LAP) House, Germany in April, 2012.

### **Conference Proceedings**

- Kazaree Basak, Rajdeep Das, Rajarshi Bhattacharya, Tapalina Bhattasali, "Edge Intelligence to Detect COVID-19", In: Proceedings of AAHiPC 2020.
- M. Das Nath, Tapalina Bhattasali, "SCMCI: Secured Click and Mortar Commercial Interaction", In: Proceedings of CSI Annual Convention 2020.
- Tapalina Bhattasali, "Technology Acceptance Model for U-Transaction", 2017, November, In: Conference Proceedings of ICCEM 2017 organized by St. Xavier's College, Kolkata in collaboration with St. Xavier's University.
- Tapalina Bhattasali, N. Chaki, R. Chaki, K. Saeed, "Context and Trust Aware Workflow Oriented Access Framework", In: Proceedings of International Conference on Software Engineering and Knowledge Engineering (SEKE 2016). Selected for publication in special issue of IJSEKE in July 2016 (indexed in SCI-E, Scopus, Journal Citation Reports/Science Edition) as best paper.
- Tapalina Bhattasali, N. Chaki, "Heterogeneous Services in Layered Framework of IoT Enabled Assisted Living", In: Proceedings of IoT-enabled Healthcare and Wellness Technologies and Systems (IoT-Health), ACM International Conference on Mobile Systems, Applications, and Services, ACM Mobisys 2016.
- Tapalina Bhattasali, N. Chaki, "Exploring Heterogeneous Services for IoT Enabled Remote Application Framework", In: Proceedings of ACM International Conference on Mobile Systems, Applications, and Services Companion, ACM Mobisys 2016.
- Tapalina Bhattasali, P. Panasiuk, K. Saeed, N. Chaki, R. Chaki, "Modular Logic of Authentication Using Dynamic Keystroke Pattern Analysis", In: Proceedings of International Conference of Numerical Analysis And Applied Mathematics (WoS Publication), American Institute of Physics (AIP), ICNAAM2015. Extended version "Typing Pattern Analysis for Modular Authentication", accepted in International Journal - Applied Mathematics and Information Science, Natural Science Publishing in 2015 (was indexed in Journal Citation Reports/Science Edition).
- Tapalina Bhattasali, K. Saeed, "Two Factor Remote Authentication in Healthcare", In: Proceedings of International Conference on Advances in Computing, Communication and Informatics (ICACCI), IEEE XPLORE, 2014.
- Tapalina Bhattasali, "An IoT based Secure Assisted Aged Living Framework", PhD Forum paper of International Conference on Distributed Computing and Networking, ICDCN 2014.

- Tapalina Bhattasali, R. Chaki, N. Chaki, "Secure and Trusted Cloud of Things", In: Proceedings of Annual IEEE India Conference INDICON 2013.
- Tapalina Bhattasali, R. Chaki, "BEAMS: Battery Exhaustion Anomaly Monitoring System Model in SENSORNET", Proceedings of International Conference on Sensing Technology (ICST 2012), IEEE.

### Articles

- "Talent Analytics: A Game Changer for Organizations", YOUTHINK, St. Xavier's College (Autonomous), Kolkata, 2021.
- "Emergence of UPI as a Disruptor", YOUTHINK, St. Xavier's College (Autonomous), Kolkata, 2021.
- "A Study of App Based Cab Aggregator Model", YOUTHINK, St. Xavier's College (Autonomous), Kolkata, 2019.
- "Blockchain: Remolding Future of Banking Sector", YOUTHINK, St. Xavier's College (Autonomous), Kolkata, 2018.
- "Security Aspects in Internet of Things Domain", CSI Communications, April 2014.
- "Cloud Based High Performance Computing", CSI Communications, September 2013.
- "LICRYPT: Lightweight Cryptography Technique for Securing Smart Objects in Internet of Things Environment", CSI Communications, May 2013.

**Undergoing Project:** Assessing the Inclusion of Financial Literacy in Selected Higher Education Institutions of West Bengal: A Study, funded by Govt. of West Bengal

### Award

- Honorary award from IEU, Maldives, working for SAARC countries to eradicate poverty and empowering Economics. In recognition and appreciation of the contribution in the field of "Secured Internet of Things Framework; Case Study: Rural Healthcare in India" (based on the field works at remote villages of Birbhum, Sunderban)
- Global Outreach Research Award – Young Researcher in Computer Science & Engineering.
- IRDP Award for "Teaching and Research Excellence".
- National Awards of Excellence.
- Silver Medal from the Governor of West Bengal for being rank holder in M.Tech.

### Membership

- Senior Member, Association for Computing Machinery (ACM)
- Senior Member, IEEE
- Academic Member, Society for Data Science (S4DS)
- Member, Analytics Society of India.
- Member, Data Security Council of India (DSCI)
- Member, International Association of Computer Science and Information Technology (IACSIT)
- Member, International Association of Engineers (IAENG)

- Member, International Association of Engineers and Scientists (IAEST)
- Global member, Internet Society (ISOC)
- Lifetime member, Cryptology Research Society of India (CRSI)
- Lifetime Member, Kolkata Nivedita Shakti Charitable Trust - A National Movement for Women initiated by Vijnana Bharti

### **Professional Experience**

- Served as academic consultant at Anuwesha Academy, OCTAVA, Career Plus
- Served as Visiting Research Associate at AGH University of Science and Technology, Poland
- Served as Senior Research Fellow at ITRA, Media Lab Asia, Govt. of India and TEQIP- II, University of Calcutta.
- Served as Guest Lecturer at West Bengal University of Technology and University of Calcutta.
- Served as full-time faculty at Techno India College of Technology and visiting faculty in various colleges under Techno India Group.

### **Roles & Responsibilities**

- PhD Supervisor at Postgraduate & Research Department of Commerce.
- Member, Product Development Committee, Research and Development Cell, St. Xavier's College(Autonomous), Kolkata
- Member, Women Cell Committee, St. Xavier's College(Autonomous), Kolkata
- Assistant Coordinator, LMS, St. Xavier's College(Autonomous), Kolkata
- Working Committee Member, Centre for Gender Studies, St. Xavier's College (Autonomous), Kolkata
- Teaching various topics of Information Technology, Computer Science and Management; guiding projects for both UG and PG
- 2<sup>nd</sup> / 3<sup>rd</sup> year Coordinator of Mentorship programme at Postgraduate & Research Department of Commerce, St. Xavier's College (Autonomous), Kolkata
- Teaching at Career Oriented Programmes in St. Xavier's College (Autonomous), Kolkata
- Associate Editor, Peer Reviewed Multi-Disciplinary Journal Aviskaar, St. Xavier's College (Autonomous), Kolkata
- Managing Editor, Peer Reviewed Journal Aequitas, Centre for Gender Studies, St. Xavier's College (Autonomous), Kolkata
- Academic Mentor, Business Analytics Programme, MIT World Peace University, Pune
- Associated Researcher, Bialystok University of Technology Biometrics Team, Poland Editor, Azerbaijan Journal of High-Performance Computing
- Visiting Faculty, University School of Engineering and Applied Sciences, Desh Bhagat University, Punjab
- Program Committee Member, Organizing Committee Member and Reviewer of reputed International Conferences
- Reviewer of reputed peer reviewed journals like IEEE Access, IEEE Systems, and Inderscience, Springer Journals.



### Organizer (Selected Events)

- Co-Convener of International Conference ICCEEM 2025 organized by St. Xavier's College (Autonomous), Kolkata
- Co-Convener of Multidisciplinary International Conference cum Workshop on "India 2.0: Vision for India in 2047" organized by St. Xavier's College (Autonomous) Kolkata in collaboration with The Bhopal School of Social Sciences in March 2023
- Convener of Publication Committee of International Conference ICCEEM 2024 and 2023 organized by St. Xavier's College (Autonomous), Kolkata
- Co-Convener of National level Workshop on "Digital Entrepreneurship for Rural Women" organized by Centre for Fender Studies, St. Xavier's College (Autonomous), Kolkata in collaboration with Kolkata Nivedita Shakti Charitable Trust in November 2022
- Coordinator of Five Days Online Faculty Development Programme on "Data Analysis using Python" organized By Department of Information Technology, St. Xavier's College (Autonomous), Kolkata in collaboration with E & ICT Academy, IIT Kanpur, MeitY, Govt. of India in June 2022
- Convener of Five Days Capacity Building Workshop on "Demystifying Python for Data Analytics" organized By Department of Information Technology, St. Xavier's College (Autonomous), Kolkata in June 2022
- Convener of Publication Committee and Registration Committee of International Conference ICCEEM 2022 organized by St. Xavier's College (Autonomous), Kolkata
- Convener of Online Faculty Development Programme on "Data Analytics for Business and Research" organized by Department of Information Technology, St. Xavier's College (Autonomous), Kolkata in December 2021
- Convener of two-day Online International Workshop on Advanced Applications on High Performance Computing, AAHiPC 2020, organized by Azerbaijan State Oil and Industry University (ASOIU), Baku in collaboration with St. Xavier's College (Autonomous), Kolkata in November 2020
- Technical Committee Member of two-day International Webinar organized by Department of Social Work: NSS & UBA, St. Xavier's College (Autonomous), Kolkata in September 2020
- Organizing Committee Member of Inter-College State Sports & Games Championship 2025 and 2019-20, organized by Department of Higher Education, Government of West Bengal and St. Xavier's College (Autonomous), Kolkata
- Organizing Committee Member of National Conference on Women's Issues and Everyday Life: Power, Resistance and Representation organized by St. Xavier's College (Autonomous), Kolkata in January 2020
- Organizing Committee Member of JHEASA Conference at St. Xavier's College (Autonomous), Kolkata in October 2019
- Programme Coordinator of One-day National Workshop on "Understanding Plagiarism" organized by St. Xavier's College (Autonomous), Kolkata in August 2019

- Programme Coordinator of UGC approved 7-day National Workshop on Quantitative Research Methodology organized by St. Xavier's College (Autonomous), Kolkata in collaboration with Institute of Development Studies (IDSK), Kolkata in August 2019

### **Collaborative Research Experience**

- Worked in collaboration with Poznan University of Technology, Poland
- Worked in collaboration with AGH University of Science & Technology, Bialystok University of Technology and Warsaw University of Technology
- Worked in Remote Health project funded by Information Technology Research Academy (ITRA), Media Lab Asia, Ministry of Electronics and Information Technology (MeitY) Government of India
- Worked in collaboration with Jadavpur University, NIT Durgapur and IIST

### **Fellowship & Travel Grant**

- Awarded DST PURSE Fellowship, Govt. of India from University of Calcutta to visit Poland for international collaboration.
- Awarded International Grant from Information Technology Research Academy (ITRA), Media Lab Asia, and MeitY, Govt. of India to visit Singapore.
- Awarded Senior Research Fellowship by Govt. of India (Media Lab Asia, MeitY) and Technical Education Quality Improvement Programme (TEQIP), university fellowship for doctoral research at University of Calcutta.
- Awarded Senior Research Assistantship by Technical Education Quality Improvement Programme (TEQIP) from West Bengal University of Technology.
- Awarded consolidated fellowship and travel grants from several tier 1 international conferences like CISIM, INDICON, ICDCN, CISIM, MOBISYS, ACSS, COMSNET.

### **International Visit**

- Visited as lecturer in AGH University of Science and Technology, Krakow, Poland.
- Visited Poland for research collaboration as part of Doctoral research.
- Presented research paper in International Conference at Warsaw University of Technology, Warsaw, Poland.
- Invited for industrial visit to Motorola at Krakow, Poland.
- Presented research papers in a tier-1 International Conference in Singapore, organized by Singapore Management University.
- Visited Singapore to meet international mentors of remote health project.

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