

Indresh Kumar Verma, Ph.D.



CONTACT INFORMATION

Assistant Professor
Symbiosis Institute of Design,
Symbiosis International (Deemed University),
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INTERESTS

Ux/ui, Usability Engineering, Product Design, Interaction Design, Driver-Vehicle Interaction, Cognitive Workload.

EDUCATION

Ph.D. in Design
Indian Institute of Technology Guwahati (IITG)
Guwahati, Assam - 781039, India.

July 2014 – May 2021
Course Work (CPI 9.23/10.0)

M.Des (Electronic Systems)
Indian Institute of Information Technology, Design & Manufacturing
Kancheepuram, Tamil Nadu - 600127. India.

August 2010 – July 2012
(CGPA 8.04/10.0)

B.E. (Electronics & Instrumentation)
Chhatrapati Shivaji Institute of Technology
Durg, Chhattisgarh, India.

July 2006 – July 2010
(CGPA 7.81/10.0)

Delhi Public School, Risali, Bhilai, Durg, Chhattisgarh, India.
Pre-primary, Primary, Senior secondary and Higher secondary School

March 1990 – April 2003

PROFESSIONAL EXPERIENCE

Symbiosis Institute of Design (SID), Symbiosis International (Deemed University), Pune, Maharashtra, India. [Feb 2023 – Present]

Assistant Professor

- Conducted classes for B.Des (2nd, 3rd, 4th year) and M.Des students.
- Subjects Taught: Introduction to User Experience Design, Ergonomics in HCI, Usability Testing, Tangible Interaction Design, Project 3,4,5, Research Paper Writing, Design Process and Thinking.
- Mentored final year students for Degree Projects and Research Paper writing and Publication.

School of Design (SOD), NMIMS University, Mumbai, Maharashtra, India.

[Sept 2021 – Jan 2023]

Assistant Professor

- Conducted classes for 2nd, 3rd, 4th and 5th semester students.
- Subjects Taught: Connected Experiences, Interaction Design, Research Pathway – II (White-paper Writing), Research Pathway – III (Research paper writing and scientific poster making), Web & Mobile Experience, Interface Design.
- Mentored final year students for Capstone Projects.
- Mentored students for convocation year book 'BY DESIGN' Vol. 2 (2022).

Symbiosis School of Planning Architecture & Design, Nagpur, Maharashtra, India. [July 2021 – Sept 2021]

Visiting Professor

- Conducted Online classes for 3rd and 5th semester students.
- Subjects taught included – User Interface graphics, Interaction Design, Introduction to User Interface Design.

IIT Guwahati, Guwahati, Assam. India.

[August 2014 – Sept 2020]

Graduate Research Assistant

- Assisted in organising lab sessions for UG/PG courses at Ergonomics laboratory, IIT Guwahati
- Assisted in organising Theoretical lectures/ seminars at Ergonomics laboratory, IIT Guwahati
- Assisted in organisation of International Ergonomics conference 'HWWE-2014' at Ergonomics laboratory, IIT Guwahati

Core Committee Member Research Conclave 2016

- Website development and maintained for Research Conclave 2016 at IITG, and actively participated in organising the event.

Chhatrapati Shivaji Institute OF Technology, Durg, Chhattisgarh. India.

[July 2012 – July 2014]

Assistant Professor

- Served as Assistant Professor in the Department of Electronics & Instrumentation Engineering at Chhatrapati Shivaji Institute of Technology, Durg

IITD & M, Kancheepuram, Tamil Nadu. India.

[Aug 2010 – June 2012]

Teaching Assistant

- Assisted and Organized Lab sessions for the B.Tech (1st year), the Labs included C programming, Basic Electronic Practices, Electronics Devices and circuits Lab for B.Tech (2nd year).

PERSONAL ACHIEVEMENTS

- Winner of Design competition of calendar 2018 of IIT Guwahati.
- Winner of Design competition of calendar 2017 of IIT Guwahati.

- 3rd Position in Badminton during Design Championship 2015, organized by the Department of Design, IIT Guwahati.
- Secured 1st position in EIE department in 2006 session at CSIT Durg.
- Selected among top 3% student in (Graduate Aptitude Test for Engineering) GATE 2010 in Instrumentation Engg. exams conducted by IIT's and IISc.

TECHNICAL SKILLS

Operating Systems: Windows, Linux, Mac OSX

Tools: Adobe InDesign, Adobe Illustrator, Adobe Dreamweaver, Adobe Muse, Adobe Photoshop, Catia – Delmia, Multisim, IBM SPSS v25, \LaTeX 2e

Statistical Analysis: ANOVA, t-test, Shapiro–Wilk test, Friedman chi-square test, Parametric and Non-parametric Statistics

PROJECTS

- **Optimization Of Energy Harvesting using Piezoelectric Sensor** [May 2011 – July 2012]
The energy being generated from a piezoelectric sensor is very less, and to utilize it we need some special energy harvesting circuits, the project aims at developing a circuit that optimizes the energy available to be used in ultra-low power applications.
- **Design & Development of a Pit Detecting Robot** [Sept 2010 – April 2011]
The Remote operated Robot is able to detect and count the number of pits or depressions on its path by using IR sensors.
- **Monitoring and control of Greenhouse Environment** [July 2009 – July 2010]
Project to monitor and control the environmental conditions (Light, Temperature, Moisture, Humidity) inside a green house.
- **Stepper Motor Interface with Shift Register** [May 2008 – July 2008]
A project to demonstrate the movement of stepper motor with the shifting of bits in a shift register.

WORKSHOPS ATTENDED

- **Workshop on Systematic Innovation for Design, Engineering and Management** [4th – 9th Sept. 2017]
Participated in ,workshop on Systematic Innovation for Design, Engineering and Management , organized by Department of Design, IIT Guwahati.
- **Workshop on Intellectual Property Right** [30th Nov – 1st Dec 2016]
Participated in Workshop on Statistical Methodologies for Research in Design, Organized by Department of Design, IIT Guwahati.
- **Workshop on Statistical Methodologies for Research in Design** [7th – 12th November 2016]
Participated in Workshop on Statistical Methodologies for Research in Design, Organized by Department of Design, IIT Guwahati.
- **Workshop on Visual Display Design: Scientific way of Representation** [14th – 16th March 2016]
Participated in National Workshop on Visual Display Design: Scientific way of Representation, Organized under TEQIP, conducted by Department of Design, IIT Guwahati.
- **Workshop on Technical Communication and writing** [13th – 17th April 2015]
Participated in Technical Communication and writing Workshop, organized by Students' Affair section, IIT Guwahati.
- **Short-term Course on Design: Education, Research & Innovation** [2nd – 6th February 2015]
Participated in AICTE Sponsored Short-term Course on "Design: Education, Research & Innovation (DERI)" conducted by Department of Design, IIT Guwahati.

EXTRA CURRICULAR
ACTIVITIES

- **General Secretary, Married Scholars' Hostel, IIT Guwahati** [April 2017 – April 2018]
Served as General Secretary of Married Scholars' Hostel (MSH), IIT Guwahati. I was actively involved in taking decisions and heading the Hostel Management Committee, of MSH.
- **Core Committee Member in Research Conclave 2017** [16th – 19th March, 2017]
Worked as Core Committee Member in Research Conclave 2017 organized by Students' Academic Board, IIT Guwahati.
- **Core Committee Member in Research Conclave 2016** [17th – 20th March, 2016]
Worked as Core Committee Member in Research Conclave 2016 organized by Students' Academic Board, IIT Guwahati.
- **Web Coordinator, Students' Academic Board, IIT Guwahati** [2016 – 2018]
Worked as Web coordinator, and was actively involved in Website development and maintenance of Students' Academic Board, IIT Guwahati.
- **Participated in Research Conclave 2015** [23rd – 26th March, 2015]
Actively participated in Research Conclave 2015 organized by Students' Academic Board, IIT Guwahati.

PUBLICATIONS

- **Verma, I.K.**, Nayak, B.K., & Karmakar, S. (2025). Effect of Mobile Phone Position on the Visual and Driving Behaviour – A Lane Change Test-Based Study. *Promet - Traffic & Transportation*, 37(3), 723–737. <https://doi.org/10.7307/ptt.v37i3.781>
- Khan, N., Ranade, P., & **Verma, I.K.** (2025). Leveraging Technology to Enhance Hiker Safety: A Design Intervention. In: Deepak, B.B.V.L., Bahubalendruni, M.R., Parhi, D., Biswal, B.B. (eds) *Recent Advancements in Product Design and Manufacturing Systems. IPDIMS 2023*. Lecture Notes in Mechanical Engineering. Springer, Singapore. https://doi.org/10.1007/978-981-97-6732-8_51
- Sreenath, N., Ranade, P., **Verma, I.K.** (2024). AI-Powered Personalised Learning in Primary Education: A Design Thinking Perspective. In: Bansal, J.C., Borah, S., Hussain, S., Salhi, S. (eds) *Computing and Machine Learning. CML 2024*. Lecture Notes in Networks and Systems, vol 1108. Springer, Singapore. https://doi.org/10.1007/978-981-97-6588-1_31
- Khan, N., Ranade, P., **Verma, I.K.** (2024). Revitalising Volunteerism: The Transformative Influence of Artificial Intelligence in Volunteer Management. In: Bansal, J.C., Borah, S., Hussain, S., Salhi, S. (eds) *Computing and Machine Learning. CML 2024*. Lecture Notes in Networks and Systems, vol 1108. Springer, Singapore. https://doi.org/10.1007/978-981-97-6588-1_5
- Parmar, K., **Verma, I.K.** (2024). A Comprehensive Approach to Enhancing Doctor-Patient Interaction: Bridging the Gap for Better Healthcare. *International Journal of Online and Biomedical Engineering (ijOE)*, 20(13), pp. 1–20. <https://doi.org/10.3991/ijoe.v20i13.50345>
- Chaudary, S., Ranade, P., & **Verma, I. K.** (2024). Augmented Reality Retail Solution for Enhanced Shopping Experiences: Design Intervention for Retail Industry. *Engineering Proceedings*, 66(1), 14. <https://doi.org/10.3390/engproc2024066014>
- Maind, S., Ranade, P., & **Verma, I. K.** (2024). Empowering Elderly Fitness by Gamifying Walking: A Design Thinking Approach. *Engineering Proceedings*, 66(1), 16. <https://doi.org/10.3390/engproc2024066016>
- Banikya, A. K., Ranade, P., & **Verma, I. K.** (2024). Managing Deadstock in the Fashion and Apparel Industry: An Exploration of Causes, Solutions and Technological Interventions. *Engineering Proceedings*, 66(1), 9. <https://doi.org/10.3390/engproc2024066009>

- Bansod, S., Ranade, P., **Verma, I.K.** (2024). AI-Integrated Smart Toy for Enhancing Cognitive, Emotional, and Motor Skills in Toddlers. In: Sharma, H., Shrivastava, V., Tripathi, A.K., Wang, L. (eds) *Communication and Intelligent Systems. ICCIS 2023*. Lecture Notes in Networks and Systems, vol 968. Springer, Singapore. https://doi.org/10.1007/978-981-97-2079-8_21
- Kastiya, N., **Verma, I.K.** (2023). Encouraging Better Food Inventory Management: A Mobile Application-Based Solution. In: Chakrabarti, A., Singh, V. (eds) *Design in the Era of Industry 4.0, Volume 1. ICORD 2023*. Smart Innovation, Systems and Technologies, vol 343. Springer, Singapore. https://doi.org/10.1007/978-981-99-0293-4_63
- Tripathi, S., Thakurta, A.G., **Verma, I.K.** (2023). Canny Click: A Board Game Designed to Stimulate Mindful Online Behavior Among Teenagers. In: Deepak, B.B.V.L., Bahubalendruni, M.V.A.R., Parhi, D.R.K., Biswal, B.B. (eds) *Intelligent Manufacturing Systems in Industry 4.0. IPDIMS 2022*. Lecture Notes in Mechanical Engineering. Springer, Singapore. https://doi.org/10.1007/978-981-99-1665-8_21
- Trikha, N., Thakurta, A.G., **Verma, I.K.** (2023). Pathological Lying Behaviour in Indian Children: Game Design as Coping Strategy. In: Deepak, B.B.V.L., Bahubalendruni, M.V.A.R., Parhi, D.R.K., Biswal, B.B. (eds) *Intelligent Manufacturing Systems in Industry 4.0. IPDIMS 2022*. Lecture Notes in Mechanical Engineering. Springer, Singapore. https://doi.org/10.1007/978-981-99-1665-8_22
- Thole, S., Guha Thakurta, A., & **Verma, I. K.** (2023). Enhancing the Physical and Mental Activity of the Elderly in India: An Exergaming-Based Design Intervention. In S. Khan, T. Kannapiran, A. Muthiah, & S. Shetty (Eds.), *Exergaming Intervention for Children, Adolescents, and Elderly People* (pp. 128-148). IGI Global. <https://doi.org/10.4018/978-1-6684-6320-8.ch010>
- **Verma, I. K.** & Karmakar, S. (2021). Mounting a smartphone on a steering-wheel to facilitate ease of visibility of the navigation screen: a systematic product design approach. *Work (Reading, Mass.)*, 70(3), 985 – 996. <https://doi.org/10.3233/WOR-213618>
- **Verma, I. K.** & Karmakar, S. (2021). Subjective Evaluation of Driver Distraction Caused During Use of Mobile Phone for Navigation Purpose. In M. Muzammil et al. (Eds.), *Ergonomics for Improved Productivity* (pp. 713-719). Singapore: Springer Singapore. https://doi.org/10.1007/978-981-15-9054-2_83
- **Verma, I.K.**, & Karmakar, S. (2020). Positioning of the Mobile Phone to Minimize Driver's Biomechanical Effort During Navigation: DHM-Based Approach. *Journal of The Institution of Engineers (India): Series C*. <https://doi.org/10.1007/s40032-020-00580-9>
- **Verma, I.**, Nath, S., & Karmakar, S. (2018). Research in Driver-Vehicle Interaction: Indian Scenario. In G. G. Ray, R. Iqbal, A. K. Ganguli, & V. Khanzode (Eds.), *Ergonomics in Caring for People* (pp. 353-361). Singapore: Springer Singapore. http://doi.org/10.1007/978-981-10-4980-4_43
- **Verma, I. K.**, & Karmakar, S. (2017). Driver Distraction: Methodological Review. In A. Chakrabarti & D. Chakrabarti (Eds.), *Research into Design for Communities, Volume 1. ICORD 2017* (Vol. 65, pp. 849-859). Springer, Singapore. https://doi.org/10.1007/978-981-10-3518-0_73
- Nath, S., **Verma, I.**, Tiwari, R., & Karmakar, S. (2016). Exposure to Vibration, its Impact on Occupational Health and Intervention Strategies Adopted in Indian Informal Sectors: A Designer's Perspective. In A. Bhardwaj, L. P. Singh, & S. Singh (Eds.), *14th International Conference on Humanizing Work and Work Environment HWWE-2016* (pp. 53-56).

PATENT FILLED

Design Patent

- Self-balancing mobile holder for steering wheels. **[Granted on 09th Sept. 2021]**
Design Registration Number: 329864-001, Class: 08-08, Filed on 08th June, 2020.
Members: **Mr. Indresh Kumar Verma**, Dr. Sougata Karmakar, Mr. Gurdeep Singh

Utility Patent

- Design of steering wheel-hub mounted self-balancing universal mobile phone holder for reducing biomechanical effort for display-navigation by vehicle drivers. **[Published]**,
Application No.: 202031030298
Date of Filing: 16th July, 2020, Kolkata
Published on: 14th August, 2020.
The Patent Office Journal No. **33/2020**
Members: **Mr. Indresh Kumar Verma**, Dr. Sougata Karmakar, Mr. Gurdeep Singh.

PROFESSIONAL MEMBERSHIP

Life member of Indian Society of Ergonomics (ISE) [L-428]
Membership of Interaction Design Foundation (IDF) – 148165

REFERENCES

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IIT Guwahati
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Electronics Engineering,
IIITD&M Kancheepuram
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Dr. Urmi R. Salve

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