



PRATITI SARKAR

UX RESEARCHER | UX DESIGNER

📍 IDC School of Design, IIT Bombay
☎ +91-9628579959
✉ pratiti@iitb.ac.in
pratitisarkar07@gmail.com
🌐 pratitisarkar.github.io

Interest Area

User Experience Research and Design, Educational Technology, Augmented/Virtual Reality, HCI, Usability Evaluation, Visual Communication, Game Design

🎓 EDUCATION

2017 - Present

Doctor of Philosophy | IIT Bombay, India | 9.11 CPI

Thesis Direction: Investigating design strategies for immersive augmented reality based learning in K-12 classrooms

Supervisor: Dr. Jayesh S. Pillai

2015 - 2017

Master of Design | IIT Kanpur, India | 9.25 CPI

Thesis: Augmented Reality based Educational Kit to enrich Learning Experience

Supervisor: Dr. Satyaki Roy

2011 - 2015

B.Tech, CSE | IIIT Delhi, India | 8.26 CGPA

B.Tech Project: Character Animation

Supervisor: Prof. Manohar Khushalani

📁 INTERNSHIPS

Jun 2016 - Sep 2016

User Experience (UX) Design Intern | Siemens, Bengaluru

Integrated seamless experience in Industrial workflow through Smartwatch.

Developed concepts and design to provide modern day experience to software architects

May 2014 - July 2014

Systems Department Intern | Delhi Development Authority (DDA) | ASP .Net Training

Integration of payment gateway to the web site of Delhi Development Authority (DDA) and other issues related to programming of ASP .Net

May 2013 - July 2013

Research Intern | IIIT Delhi

Automated Component Assignment for Bug Reports. Mining Software Repositories using Java programming and Bugzilla Issue Tracking System for Mozilla

📖 PATENT AND COPYRIGHT

Patent

Multicolor Interchangeable Flaps and Convertible Form of Bag

Patent Application Number: 201611023368

Copyright

2 Shades: A Collaborative/Cooperative Board Game

Application Number: 8827/2017-CO/L

GRANTS

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|------|---|
| 2019 | Asia-Pacific Society for Computers in Education (APSCE) Merit Scholarship |
| 2019 | IEEE Technical Committee on Learning Technology (TCLT) Student Travel Grant |
| 2018 | IEEE Technical Committee on Learning Technology (TCLT) Student Travel Grant |

TALKS AND WORKSHOPS

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| 24 April 2020 | Designing an Immersive AR Learning Environment for Geometry Education Future of Education for Virtual and Augmented Reality (FEVAR) Lab Department of Psychology, Arizona State University |
| 25 January 2020 | Approaches to problem-solving in Augmented Reality based Learning Environment 7th IIT Bombay ACM SIGCHI Student Chapter Meet, IDC School of Design, IIT Bombay |
| 31 October 2020 - 1 November 2020 | Data Visualisation Tools and Techniques VikasAnvesh Foundation, Training Series - Module 5 |
| 06 November 2020 | DesignAR Classrooms: Towards Designing Augmented Reality Learning Experiences IndiaHCI 2020 conference (virtual) |
| 09 November 2020 | Towards Designing a Mobile Augmented Reality Learning Experience IEEE International Symposium on Mixed and Augmented Reality 2020, Brazil (virtual) |

SERVICE EXPERIENCES

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| 2021 | Co-chair: Showcase track, IndiaHCI 2020 Conference |
| 2020 - 2021 | Chair: IIT Bombay ACM SIGCHI Student Chapter |
| 2020 | Co-chair: Student Design Consortium track, IndiaHCI 2020 Conference |
| 2019 - 2020 | Member: IIT Bombay ACM SIGCHI Student Chapter, Mumbai, India |
| 2019 - Present | Reviewer: Technology for Education (T4E 2019), Interaction Design and Children (IDC 2020), CHI 2020 Alt.CHI, NordiCHI 2020, ISMAR 2020, CHI 2021 |
| 2019 - 2020 | Design Nominee: Post Graduate Academic Council (PGAC), IIT Bombay |
| 6 - 8 January 2020 | Event Incharge - Beyond Reality: IDC Golden Jubilee Design Conference and Alumni Meet, IDC School of Design, IITB |
| 2018 - 2019 | Academic Unit Representative for Academic Affairs (AURAA): Post Graduate Academic Council (PGAC), IIT Bombay |
| 2018 - 2019 | Department Companion: Institute Research Scholar Companion Program (IRSCP), IITB |
| | Student Volunteer: |
| January 2021 | International Conference on Research into Design (ICoRD 2021), IIT Bombay (Virtual) |
| November 2020 | IEEE International Symposium on Mixed and Augmented Reality 2020, Brazil (Virtual) |
| October 2020 | ACM User Interface Software and Technology Symposium (UIST 2020), USA (Virtual) |
| June 2020 | Interaction Design and Children (IDC 2020) Conference, London Virtual |
| 15 - 16 March 2019 | Design Education Symposium, IDC School of Design, IIT Bombay |

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| 2017 - Present | Teaching Assistantship: |
| 2015 - 2017 | Teaching Assistant through Project, IDC School of Design, IIT Bombay |
| Fall 2015 | Teaching Assistant, Design Programme, IIT Kanpur |
| | Teaching Assistant for Animation and Graphics Course, IIIT Delhi |

AWARDS

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| 2019 | Award: Exceptional Contribution as AURAA in PGAC 2018 - 2019, IIT Bombay |
| 2017 | Gold Medal: Best All Rounder Girl Student of Two Year Master's Programme (M.Tech/MBA/M.Des), IIT Kanpur |
| 2016 | 1st Runner Up: Honeywell Aerospace Design Challenge 2016 |

RELEVANT COURSEWORK

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| Advance Courses | Advanced Course in Methods for Child-Computer Interaction ACMCCI'19, IIT Guwahati Summer School 2019 - Write a Paper for CHI 2021, IIT Bombay |
| Research Methods | Research Methods in Educational Technology, Qualitative Design Research Methods, Quantitative Design Research Methods |
| Design Related | Instructional Design, Design for Virtual Reality, Designing Games for Children, User Studies, Design Thinking and Research Methods, Form Exploration, Fundamentals of Graphics, Management of Design and Innovation, Typography, Humanizing Digital: making digital work for people |

SKILLS

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| Research Methods | Interview, Focus Groups, Card Sorting, Heuristic Evaluation, Contextual Inquiry, Affinity Mapping, Grounded Theory, Thematic Analysis |
| Technical Skills | HTML5, CSS3, C#, ASP .Net, C, Java, Python |
| Software Proficiency | Unity, Figma, Processing, Audacity, Android Studio, LATEX <i>Adobe:</i> Photoshop, AdobeXD, Illustrator, Premiere Pro, InDesign, After Effects <i>Autodesk:</i> 3ds MAX, Maya, Auto CAD |

PUBLICATIONS

Journals

Pratiti Sarkar, Kapil Kadam and Jayesh S. Pillai. **Learners' approaches, motivation and patterns to problem-solving on Lines and Angles in Geometry using Augmented Reality.** Smart Learn. Environ. 7, 17 (2020).

Surojit Dey and **Pratiti Sarkar**. **GO – A Persuasive Mobile Application For Indian Driving Scenario.** International Journal of Advance Engineering and Research Development, Volume-04, Issue-01. 2017.

Conferences

Pratiti Sarkar, Kapil Kadam and Jayesh S. Pillai. **Collaborative approaches to problem-solving on lines and angles using augmented reality.** In 2019 IEEE Tenth International Conference on Technology for Education (T4E) (pp. 193-200). Goa, India: IEEE. 2019.

Pratiti Sarkar, Prabodh Sakhardande, Utsav Oza and Jayesh S. Pillai. **Study of Augmented Reality Interaction Mediums towards Collaboratively Solving Open-Ended Problems.** In 27th International Conference on Computers in Education (pp. 472-477). 2019.

Pratiti Sarkar and Jayesh S. Pillai. **User expectations of augmented reality experience in Indian school education.** In Research into Design for a Connected World (pp. 745-755). Springer, Singapore. 2019.

Pratiti Sarkar, Jayesh S. Pillai and Ankita Gupta. **ScholAR: A collaborative learning experience for rural schools using augmented reality 819 application.** In 2018 IEEE Tenth International Conference on Technology for Education (T4E) (pp. 8-15). Chennai: IEEE. 2018

Navneet Kaur, Rumana Pathan, Ulfa Khwaja, **Pratiti Sarkar**, Balraj Rathod and Sahana Murthy. **GeoSolvAR: Augmented Reality Based Application for Mental Rotation.** In 2018 IEEE Tenth International Conference on Technology for Education (T4E) (pp. 45-52). IEEE.

Satyaki Roy, **Pratiti Sarkar** and Surojit Dey. **DyMAR - Introduction to Dynamic Marker based Augmented Reality using Smartwatch.** In International Conference on Augmented Reality, Virtual Reality and Computer Graphics (pp. 448-456). Springer, Cham. 2017.

Surojit Dey and **Pratiti Sarkar**. **Augmented reality based integrated intelligent maintenance system for production line.** In Proceedings of the 8th Indian Conference on Human Computer Interaction (pp. 126-131). 2016.

Book Chapter

Satyaki Roy, **Pratiti Sarkar** and Surojit Dey. **Augmented Learning Experience for School Education.** In: Lee N. (eds) Encyclopedia of Computer Graphics and Games. Springer, Cham

Doctoral Consortium

Pratiti Sarkar. **Designing an augmented reality learning environment for visuospatial thinking in geometry.** In Proceedings of the 2020 ACM Interaction Design and Children Conference: Extended Abstracts (IDC '20). Association for Computing Machinery, New York, NY, USA, 34–37.