




# Sumegh Paltiwale

EdTech Research | Data Scientist | Technologist

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 Gwalior | Bombay, India

## ABOUT ME

Passionate technologist keen to explore EdTech innovation through research excellence. With 6+ years of immersion in interdisciplinary explorations in leading research projects at TISS, Bombay. As an open-source technology enthusiast, I strive to identify the areas for leveraging technologies to enhance teaching and learning experiences and make it accessible to all. I strongly advocate for Free and Open Source Software in education and beyond.

## EDUCATION

### Master of Science

Department of Computer Science  
University of Mumbai  
2017

### Bachelor of Engineering

Watumull Institute of Electronics  
Engineering and Computer Technology,  
Bombay  
2014

### Schooling

Atomic Energy Central Schools,  
Bombay

## KEY SKILLS

### Project Management

- End-to-end project management including planning project timelines, budgets, and goals; managing cross-functional teams; tracking progress and outcomes

### Leadership

- Led teams across project lifecycles; coached and mentored junior staff

### Stakeholder Engagement

- Managed relationships with multiple external partners like Tata Trusts, Google, non-profits for project coordination

### Communication

- Developed proposals, project reports, and presented to the leadership teams and funders

## WORK EXPERIENCE

Senior Research Associate

Oct 2022 - till date

### Tata Institute of Social Sciences | Bombay

#### Project Management

- Drafted the research proposals, and documentation for Assessment Google Solutions in Education Project at TISS in collaboration with Google India and Panl Pte Ltd
- Led the research and implementation activities across different states in India
- Coordinated between the stakeholders
- Designed the research tools for the data collection
- Conducted and led the data collection activities
- Led a cross-functional team of researchers, consultants, and data analysts over the course of the project.
- Oriented new researchers and consultants, providing orientation on project goals, research methodology, tools, and processes and assigned tasks and deliverables to team members based on skills and capacities.
- Tracked progress and provided guidance to help the team meet key milestones and deadlines and facilitated coordination between team members across different workstreams to ensure alignment.
- Coached and mentored junior team members, providing feedback to support development. Rigorously coached the team on using SPSS and MAXQDA for analysis of complex qualitative and quantitative data from the projects.

#### Data Management and Analysis

- Led the report drafting phase for AGSE Project
- Led the data-curation and analysis (qualitative as well as quantitative)
- Involved in research and analysis for UNICEF India-TISS project (CTLT) data
- Conducting training sessions for the usage of various research tools (for qualitative as well as quantitative research) for the CTLT project team as well as CETE research staff

Research Associate

Aug 2019 - Oct 2022

### Tata Institute of Social Sciences | Bombay

- Majorly involved with the ITE (Integrated approach to Technology in Education) project (winner of 2019 eNabling North East Development Award), seeded by Tata Trusts
- Involved in the development and maintenance of web-portals for the project
- Analytics of the LMS courses and corresponding activities on the OpenedX-based platform (TISSx)
- Developed content for free course on the usage of ICT in education
- Development of a browser-based plugin in JavaScript for text-mining of online CoPs (community of practice) (Analysing the WhatsApp data) presented at OCCE 2020 and SITE 2021 Conferences
- Data curation, Statistical analysis and reporting of the data (Baseline-Midline-Endline) from fields across various geographies in India (Using SPSS, R, and Python)
- In collaboration with Open University UK, Research and implementation of digital badges for e-learning platforms
- Development of the graphics for the project's research material and OCCE 2020 Conference (Conference Page Link)
- Part of the Local Organizing Committee (LOC) for the OCCE 2020 conference managing the technical aspect

## PROFESSIONAL MEMBERSHIPS

- International Federation for Information Processing (IFIP) - Technical Committee 3 (corresponding member since 2020)
- Indian Mathematical Society (Life member since 2022)
- Cryptology Research Society of India (Life member since 2022)

## COURSES DEVELOPED AND MANAGED

### For Teachers On TISSx

- TOL01 - Technologies for Online Learning (Content development and Analytics)
- S02 - Reflective Mathematics teaching using ICT (Content development)
- C02 - Constructive Teaching and Learning using ICT (Analytics)

### For Students on CLIXplatform

- Linear Equations (Content development, management, and JavaScript tools development)
- Proportional Reasoning (Content authoring)
- Geometric Reasoning (Content authoring)

## TECH AND PROGRAMMING SKILLS

### Familiar Project Management Softwares:

ClickUp, Monday, Trello, MS Projects, MS Excel

### Data Analysis:

Quantitative: SPSS, Python

Qualitative: MaxQDA, Atlas.TI

Languages: Python, Java, C/C++, LISP,

JavaScript, HTML, CSS, SQL

Databases: Neo4j, MySQL, MongoDB

CMS/LMS: OpenedX, WordPress, Moodle

Graphic Designing: Inkscape, GIMP

Research Assistant

May 2017 - Apr 2019

### Tata Institute of Social Sciences | Bombay

- Development and maintenance of JavaScript-based plugins on Django/Python-based (gStudio) LMS and CMS
- Involved in authoring/maintaining and analytics of the data generated on Django/Python-based (gStudio)
- Involved in authoring/maintaining and analytics of the data generated on TISSx (edX-based) platform
- Management of the computer lab at TISS M-Power Public Learning center and conducting sessions for training free and Open Source softwares
- One of the initial members is the CLIX-ELeCT (CLIX-E-learning for Community Technology) initiative at TISS-M-power learning center at M-ward (Mumbai) where the digital literacy course is being run for underprivileged learners.
- Managing the communication channels for Mathematics teachers using various Communities of Practices and documentation of analytics.
- Facilitated the digital literacy course by teaching the usage of Free and Open Source tools. Also contributed in the development of teachers' courses for teaching using dynamic mathematics software
- Development and documentation of course content for the usage of ICT in Mathematics Education for students (Linear Equation, Geometric Reasoning, and Proportional Reasoning modules)
- Organizing and Facilitating TPD workshop on the usage of free and open-source technology in education for teachers in their classrooms in government schools in Rajasthan, Chattisgarh, Telangana, and Mizoram.
- Graphic designing (especially for posters) using Inkscape, GIMP, and other open-source tools

Visiting Faculty

Dec 2017 - Jan 2018

### Department of Computer Science, University of Mumbai | Bombay

Taught Python programming language for the Algorithms subject to first semester Masters's course students.

Visiting Student | Intern

Dec 2016 - Apr 2017

### Homi Bhabha Centre for Science Education, Tata Institute of Fundamental Research

- Worked at Gnowledge lab (<https://www.gnowledge.org/>), for migration of an existing open-source project, gStudio (Django/Python based) to a Neo4j-based platform.
- Work mainly involved the exploration of graphical databases and how graph-based computation can be considered an alternative approach to the traditional computing approach.

Implant Trainee

Jun 2012 - Jul 2012

### Bhabha Atomic Research Centre, Department of Atomic Energy | Bombay

Worked on the development of an acoustic sensor circuit with a signal amplifier which could be useful for identifying the micro-vibrations and micro-cracks for safety purposes.

## CERTIFICATIONS

<b>Research Trends in Machine Learning and IoT (RTMI-2021)</b>	2021
<b>Crash Course on Python</b> Motilal Nehru National Institute Of Technology, Allahabad	
<b>Crash Course On Python - 2021, Google</b> Google (Coursera)	2021
<b>Blockchain Basics - 2020</b> MOOC offered by University At Buffalo (Coursera)	2020

## INVITED TALKS AND TEACHINGS

- Taught Algorithms and Python Programming to first-year MSc Computer Science students at Department of Computer Science, University of Mumbai.
- Conducted a one-day session at S. P. K. college, Sawantwadi on Algorithms and Introduction to Programming using Python.
- Digital literacy and usage of Free and Open Source Softwares (FOSS) at M-Power Center formixed-age group learners.
- Conducted a one-day session on introduction to fundamentals of Graphical Databases and Neo4j to MSc students at the Department of Computer Science, University of Mumbai

## OTHER PROJECT ASSESSMENT REPORTS

- Drafted Baseline-Endline reports for Tata Trusts' Integrated Approach to Technology in Education (2022)
- Drafted Baseline report for Tata Trusts' Integrated Approach to Technology in Education (2023) (under review)
- Drafted statistical report for Leprosy Trust of India (2022)

#projectmanagement

#programmanagement

#edtech

#educationprograms #technologyintegration

#leadership

#teambuilding

#stakeholderengagement #capacitybuilding

#learningplatforms

#opendata

#dataanalysis

#datascience

#machinelearning #digitalinclusion #ict4d

#onlinelearning

#blendedlearning

#computerscience

#computerscienceeducation

#stemeducation #computationalthinking

#codingeducation

## PUBLICATIONS

### Book Chapters

- Charania A, Paltiwale S, Bakshani U (2022). Integrated Approach to Technology in Education in India: Implementation and Impact. Taylor & Francis. Link: <https://doi.org/10.4324/9781003300274>

### Journal Publications

- Charania A, Paltiwale S, Sen S, Sarkar D, Bakshani U. Leading Edge Use of Technology for Teacher Professional Development in Indian Schools. Education Sciences. 2023; 13(4):386.
- Charania, A., Bakshani, U., Paltiwale, S., Kaur, I., & Khan, N. N. (2021). Constructivist teaching and learning with technologies in the COVID-19 lockdown in Eastern India. British Journal of Educational Technology, 00, 1- 16. Link: <https://doi.org/10.1111/bjet.13111>
- Paltiwale, S. & Charania, A. (2021). Understanding the teacher participation and interaction over technology-enabled CoP. In E. Langran & D. Rutledge (Eds.), Proceedings of SITE Interactive Conference (pp. 44-48). Online, United States: Association for the Advancement of Computing in Education (AACE).
- Paltiwale, S., Sarkar, D., & Charania, A. (2020, January). Use of Community of Practice for In-Service Government Teachers in Professional Development. In Open Conference on Computers in Education (pp. 73-77). Springer, Cham.

### Conference Proceedings and Presentations

- (abstract) Dhakulkar A., Paltiwale S.(2019)raikhik samikaran ke adhigam ke liye sanvadatmak aur sahyogi vatavaran ka nirmaan(in Hindi), Central Intititueof Education, Delhi University (Presentation link)
- (abstract) Salgaonkar A., Paltiwale S. (2016). Neo4j: Entities and Relations are modeled as they are. Confluence of Emerging Trends in Multidisciplinary Research Areas to Mathematics (CETMRAM-2016), Mumbai

### Research Poster

Dhakulkar A., Paltiwale S.(2018). Designing An Interactive And Collaborative Environment For Learning Linear Equations, CLix Symposium 2018, Tata Institute of Social Sciences, Mumbai

## ENTREPRENEURIAL EXPERIENCE

Operations Head

Aug 2022 - Sept 2023

eVerse.AI Private Limited

- Co-founded the AI/ML-based startup in August 2022 that leverages AI, ML and IoT solutions for enterprises especially in the agriculture industry
- As Operations Head handled administrative responsibilities for the Nagpur head office and oversaw company operations
- Oversaw the development process for ConnectedCow, an IoT platform that collects cattle data to predict biological cycles
- The startup aims to transform rural India by introducing innovative technology-based solutions
- Managed coordination between hardware engineering, software development, and data science teams
- The startup was recognized as the Dairy Tech Startup 2023 by the MSME awards and was featured in media like DD News

## REFERENCES

Vijay Jathore

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CETE, TISS Bombay

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