Sumegh
Paltiwale

Data Scientist | Researcher | Technologist |
Free Software Enthusiast

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Education

Masters of Science
2017

Department of Computer Science, University of Mumbai
| Mumbai

Bachelor of Engineering
2014

Watumull Institute of Electronics Engineering and Computer Technology
| Mumbai

Work Experience

Senior Research Associate

2022 - Till date

Tata Institute of Social Sciences, Mumbai

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 Coordinator

2019 - 2022

Tata Institute of Social Sciences, Mumbai

- 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
- Analtyics 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

Research Assistant

2017 - 2019

Tata Institute of Social Sciences, Mumbai

- 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 course students.

Visiting Faculty

Dec 2016 - April 2018

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.

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

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

Other 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

Posters

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

Courses Developed

For Students on LMS

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

For Teachers On OpenEdx

- 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)

Certifications

2021

Research Trends in Machine Learning and IoT (RTMI-2021) Crash Course on Python
Motilal Nehru National Institute Of Technology, Allahabad

2021

Crash Course On Python
Google (Coursera)

2020

Blockchain Basics
MOOC offered by University At Buffalo (Coursera)

Tech and programming skills

Familiar Project Management Softwares	ClickUp, Monday, Trello, MS Projects, MS Excel
Data Analysis	*Quantitative*: SPSS, Python *Qualitative*: MaxQDA, Atlas.TI
Programming Languages	Python. Java, C/C++, LISP, JavaScript, HTML, CSS, SQL
Databases	Neo4j, MySQL , MongoDB
CMS/LMS	CMS/LMS: OpenedX, WordPress, Moodle
Graphic Designing	Graphic Designing: Inkscape, GIMP

Entrepreneurial Experience

Aug 2022 - Sept 2023

- 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

Professional Membership

- 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)

References

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Dr Ambuja Salgaonkar
Associate Professor | HoD
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University of Mumbai
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