

RESEARCH METHODOLOGY

Integrating Generative AI in
Contemporary Research
Practices

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INTEGRATING GENERATIVE AI IN
CONTEMPORARY RESEARCH PRACTICES

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ABOUT THE BOOK

Research Methodology: Integrating Generative AI in Contemporary Research Practices offers a comprehensive yet accessible guide for students, researchers, and professionals seeking clarity and confidence in conducting research.

Spanning foundational theories to emerging trends such as generative AI, open science, and citizen-led research, this book walks readers through every stage of the research process—from identifying meaningful problems and designing robust studies to analysing data and communicating findings ethically. It also explores research in the digital age, addressing algorithmic experimentation, dataset ethics, and responsible innovation.

Designed with undergraduate learners in mind and aligned with the National Education Policy (NEP) 2020, the book follows a pedagogical approach that encourages critical thinking and inquiry-based learning. Clear learning objectives, examples, and reflective exercises help readers connect theory with practice, while a “How to Navigate This Book” roadmap guides learners through its structure.

SALIENT FEATURES

- Structured coverage of research types, designs, and data methods
- Step-by-step guidance on writing, reviewing, and presenting research
- Dedicated chapters on AI ethics, reproducibility, and responsible innovation
- Case studies, capstone projects, and reflective checkpoints

ABOUT THE AUTHOR

Dr. Geetika Vashishta is an Assistant Professor in the Department of Computer Science at the College of Vocational Studies, University of Delhi. She pursued her doctoral studies in the field of Data Science and began her professional journey with leading IT companies such as Aricent Technologies Limited and Samsung Engineering Labs as a Software Engineer. Her academic outreach extends to the School of Open Learning (SOL), University of Delhi. She also appears on TV9 Bharatvarsh as a subject expert and is affiliated with the TCS iON Digital Learning platform.

Dr. Om Pal is an Associate Professor in the Department of Computer Science, University of Delhi. He evolved and worked on research projects of national interest in various areas including Cryptography, Cyber Security, Digital Personal Data Protection (DPDP) Bill 2022, National Strategy on Blockchain, Post-Quantum Cryptography, Quantum Computing, Cyber Law etc. and drafting of R&D policies at the Ministry of Electronics and Information Technology (MeitY), Government of India. Prior to this, he worked at the Centre for Development of Advanced Computing (C-DAC) as a Sr. Technical Officer and as an IT Resource Person in the National Thermal Power Corporation (NTPC). He has two Indian patents on Conditional Access Systems and Cryptographic Systems. He is a certified ethical hacker and is also an AICTE & C-DAC certified 'Master Trainer' in the field of High-Performance Computing.

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