

The **python**TM Paradigm

Revolutionizing Academia's Toolkit



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Python is a programming language which has served as a transformative tool across diverse academic disciplines. The Python Paradigm: Revolutionizing Academia's Toolkit seeks to redefine the academic approach to problem-solving by applying Python's computational power across various fields. The book's goal is to empower researchers, educators, and students with Python's practical applications and inspire innovative solutions in complex scenarios. Key objectives include:

- Bridging Theory and Practice: Offering hands-on Python applications in fields of Engineering and Mathematical approaches like Calculus, Numerical Analysis and Numerical experiments, Tensor computations etc.
- Interdisciplinary Vision: Demonstrating Python's role in Computational Chemistry, Plant Systematics, Biomedical Signal Processing, Natural Language Processing.
- Addressing Real-World Challenges: Showcasing its use in Real world Computations, Urban Planning, Smart Cities.

Each chapter is designed to elucidate Python's versatility, blending computational power with academic consistency, making it an essential resource for tackling modern challenges in science, technology, and the humanities.

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Chapter 7

Exploring the Synergy of Python Proficiency and Algorithmic Thinking in Real-World Computation 80

Smt. Mitra Tithi Dey

Chapter 8

Applications of Python in Urban Planning and Smart Cities 92

Dr. Saikat Dalui

Chapter 9

Movement of Python in the fields of classical physical chemistry: A brief discussion 96

Dr. Debasree Saha

Chapter 10

Tensors in Python 104

Dr. Dibyendu Panigrahi

Chapter 11

Fake News Detection using Statistical Natural Language Processing 122

Smt. Sagarika Ghosh, Sri Sayak Pramanik

Chapter 12

Simple Numerical Experiments in Newtonian Gravity 149

Dr. Saurish Chakrabarty