Contents

Preface --- VII

List of Contributors --- XIII

Soumvaiit Goswami

1 Deep Learning – A State-of-the-Art Approach to Artificial Intelligence — 1

Karan Maheshwari, Aditya Shaha, Dhruv Arya, Rajkumar Rajasekaran, and B. K. Tripathy

2 Convolutional Neural Networks: A Bottom-Up Approach —— 21

Ranjan Jana, Siddhartha Bhattacharyya, and Swagatam Das

3 Handwritten Digit Recognition Using Convolutional Neural Networks — 51

Amit Adate, Dhruv Arya, Aditya Shaha, and B. K. Tripathy

4 Impact of Deep Neural Learning on Artificial Intelligence Research — 69

Rajib Saha, Anirban Mukherjee, Avik Sarkar, and Shatabhisa Dey

5 Extraction of Common Feature of Dysgraphia Patients by Handwriting Analysis Using Variational Autoencoder —— 85

Ankita Bose and B. K. Tripathy

6 Deep Learning for Audio Signal Classification — 105

Mahua Bose and Kalyani Mali

7 Backpropagation Through Time Algorithm in Temperature Prediction —— 137

Index — 153

