Glossary of Abbreviations/Symbols

List of abbreviations used throughout the thesis:

- **A**
  - ANN: Artificial Neural Network
  - ACF: Autocorrelation Function

- **B**
  - BPNN: Back-propagation Neural Network

- **C**
  - CN: Composite Neuron

- **E**
  - EC: Evolutionary Computing
  - EBP: Error-Back Propagation

- **F**
  - FTS: Fuzzy Time Series
  - FLR: Fuzzy Logical Relationship
  - FLRG: Fuzzy Logical Relationship Group
  - FFNN: Feed-forward Neural Network
  - FCM: Fuzzy C-Mean
  - FL: Fuzzy Logic
  - FWDT: Frequency-Weighing Defuzzification Technique

- **G**
  - GA: Genetic Algorithm
  - GP: Genetic Programming
  - GR: Generalizes Regression

- **I**
* IMD: Indian Meteorological Department
* ISMR: Indian Summer Monsoon Rainfall
* IBDA: Index-Based Defuzzification Technique

- L
  * LPA: Long Period Average
  * LEM2: Learning From Example Module 2

- M
  * MLFF: Multi-Layer Feed-Forward
  * MLR: Multiple Linear Regression
  * MBD: Mean-Based Discretization

- P
  * PSO: Particle Swarm Optimization
  * PNN: Probabilistic Neural Network

- R
  * RS: Rough Set
  * RBF: Radial Basis Function
  * RPD: Re-Partitioning Discretization

- S
  * SC: Soft Computing
  * SOFM: Self-Organizing Feature Maps
  * SLFF: Single-Layer Feed-Forward
  * SPI: Standardized Precipitation Index

- T
  * TAIFEX: Taiwan Futures Exchange
  * TAIEX: Taiwan Stock Exchange Capitalization Weighted Stock Index

List of symbols for the statistical parameters used throughout the thesis:
* $\bar{A}$: Mean
* $U$: Theil's Statistic
* $TS$: Tracking Signal
* $DA$: Directional Accuracy
* $\delta_r$: Evaluation Parameter
* $R$: Correlation Coefficient
* $R^2$: Coefficient of Determination
* $PP$: Performance Parameter
* AFER: Average Forecasting Error Rate
* RMSE: Root Mean Square Error
* MSE: Mean Square Error