

Acronyms & Abbreviations

November 13, 2024

The following acronyms and abbreviations are used throughout this review on mitigating radio frequency interference in radio astronomy through AI and machine learning advancements:

5G Fifth Generation (mobile networks)

ADC Analog-to-Digital Converter

AI Artificial Intelligence

ANN Artificial Neural Network

CMB Cosmic Microwave Background

CNN Convolutional Neural Network

DAC Digital-to-Analog Converter

DL Deep Learning

DNN Deep Neural Network

DSP Digital Signal Processing

EM Electromagnetic

ESA European Space Agency

FFT Fast Fourier Transform

FIR Finite Impulse Response

FN False Negative

FP False Positive

GAN Generative Adversarial Network

GBT Green Bank Telescope

GPS Global Positioning System

GPU Graphics Processing Unit

GSM Global System for Mobile Communications

HPC High-Performance Computing

IEEE Institute of Electrical and Electronics Engineers

IoT Internet of Things

I/Q In-phase and Quadrature

ITU International Telecommunication Union

KNN K-Nearest Neighbors
LOFAR Low-Frequency Array
LTE Long-Term Evolution
LSTM Long Short-Term Memory
MAP Maximum A Posteriori
ML Machine Learning
NN Neural Network
PCA Principal Component Analysis
RA Radio Astronomy
RF Radio Frequency
RFIQ Radio Frequency Interference Quenching
RNN Recurrent Neural Network
SAR Synthetic Aperture Radar
SDR Software-Defined Radio
SKA Square Kilometre Array
SNR Signal-to-Noise Ratio
SQL Structured Query Language
SVM Support Vector Machine
TNR True Negative Rate
TPR True Positive Rate
VLA Very Large Array
Wi-Fi Wireless Fidelity