TITLE OF THE REPORT
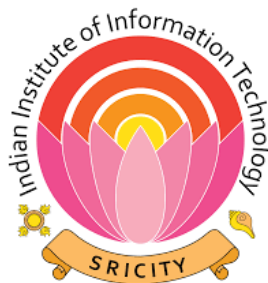
A BTP Report

by

Names

Roll Nos.:

INDIAN INSTITUTE OF INFORMATION

TECHNOLOGY SRICITY

DATE

1st Semester Report

INDIAN INSTITUTE OF INFORMATION TECHNOLOGY SRICITY

CANDIDATE'S DECLARATION

I hereby certify that the work which is being presented in the BTP entitled "**TITLE**" in the partial fulfillment of the requirements for the award of the degree of B. Tech and submitted in the Indian Institute of Information Technology SriCity, is an authentic record of my own work carried out during the time period from January 2021 to May 2021 under the supervision of Prof. XYZ, Indian Institute of Information Technology SriCity, India.

The matter presented in this report has not been submitted by me for the award of any other degree of this or any other institute.

Signature of the student with date

(STUDENT NAME)

— —

This is to certify that the above statement made by the candidate is correct to the best of my knowledge.

Signature of BTP Supervisor with date

(Prof. XYZ)

ABSTRACT

Contents

List of Figures

List of Tables

List of Abbreviations and Symbols

AWGN additive white Gaussian noise.

BER bit error rate.

CIR channel impulse response.

CKLMS complex kernel least mean squares.

CMA constant-modulus algorithm.

CMMA cascaded-MMA.

CSI channel state information.

DFE decision feedback equalizer.

EMSE excess mean squared error.

FBQKMSER fixed budget quantized kernel MSER.

FEC forward error correction.

FIR finite impulse response.

FOV field of view.

HIMSC Hammerstein improved multi-stage clustering equalizer.

i.i.d independently identically distributed.

IMSC improved multi-stage clustering.

IoT internet of things.

IP internet protocol.

ISI inter-symbol interference.

KLMS kernel least mean squares.

KMSER kernel minimum symbol error rate.

LED light emitting diode.

LMS least mean squares.

LOS line of sight.

LUT lookup table.

MBER minimum bit error rate.

MCMMA modified cascaded-MMA.

MIMO multiple-input multiple-output.

MISO multiple-input single-output.

MMA multi-modulus algorithm.

MMSE minimum mean squared error.

MRC maximal ratio combining.

MSE mean squared error.

MSER minimum symbol error rate.

NAMBER normalized-adaptive MBER.

NCKLMS1 normalized CKLMS1.

NCKLMS2 normalized CKLMS2.

NLMS normalized least mean squares.

NOMA non-orthogonal multiple access.

p.d.f probability density function.

PAM pulse amplitude modulation.

PAPR peak to average power ratio.

PD photo-diode.

PLC power-line communication.

QAM quadrature amplitude modulation.

QKMSER quantized kernel MSER.

QoS quality of service.

QPSK quadrature phase shift keying.

RF radio frequency.

RKHS reproducing kernel Hilbert space.

RLS recursive least squares.

SER symbol error rate.

SIC successive interference canceller.

SINR signal to interference and noise ratio.

SISO single-input single-output.

SNR signal to noise ratio.

SVD singular value decomposition.

UE user equipment.

VLC visible light communication.

VNI visual network index.

ACKNOWLEDGEMENTS