Akshay Bajpai

M.Tech (Communication)
IIT Bombay

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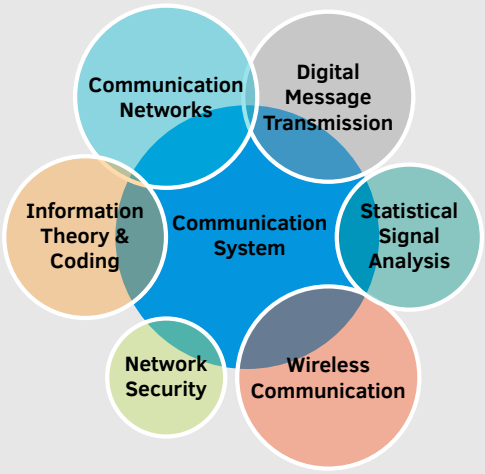
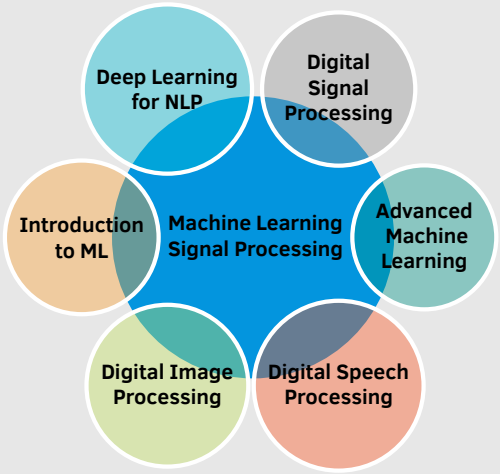
Courses





Skills

Pytorch,SkLearn,Keras

SQL,PHP,HTML

Vim,Git

C,C++,Python

Education

2019 - 2022 **M.Tech, Electrical Engineering** — **Indian Institute of Technology, Bombay**
Mumbai, India
Specialization: Communications Engineering, **CPI:9.54**
M.Tech Thesis Guide: Prof. Kumar Appaiah

2014 - 2018 **Bachelors of Technology (B.Tech)** — **National Institute of Technology (NIT)**
Durgapur, India
Specialization: Electronics & Communication Engineering, **CPI:8.97**

2013 - 2014 **Higher Secondary, CBSE** — **Kendriya Vidyalaya Cossipore**
Kolkata, India
Awarded merit certificate for being among top 0.1% in mathematics in higher secondary examinations across India. **Score: 97.00%**

Work Experience

2021-2022 **Teaching Assistant | IITB's Certificate Programme in Machine Learning and AI** — **Mumbai,India**
Conducted tutorial sessions on python coding and introductory machine learning for a diverse class consisting of industry professionals.

2019-2022 **System Administrator | Electrical Department** — **Mumbai,India**
Responsible for development of EE Department website and maintaining numerous portals related to dept. administrative activities.

2018-2019 **Wipro Technologies | SOC Analyst** — **Mumbai, India**
Performed real-time monitoring,investigation and mitigation of security incidents for multiple clients, both Indian and International, with network spanning all over the country. Tool Used- **ArcSight**

Research Experience

2019-2022 **Masters Thesis & Seminar**
Optimal precoder estimation & interpolation for MIMO-OFDM systems
Guide: Prof. Kumar Appaiah

- Reviewed and compared existing techniques to represent precoder matrices using Unitary, **Grassmanian**, **Stiefel** and **Flag manifolds** for efficient estimation and interpolation
- Implemented gradient descent algorithm to find geodesic between two flag manifold elements to maximize rate with minimal feedback
- Performed simulations for MISO, SIMO , MRC receiver, VBLAST receiver and Alamouti Coding to obtain plots for achievable rates using ITPP library in C++

2019-2020 **Degraded Broadcast Channels and Superposition Coding**
Guide: Prof. Bikash Kr. Dey

2020-2021 **Implementation of Routing Information Protocol (RIP) using C**
Guide: Prof. Sharayu Moharir

2020-2021 **Python-SQL UI for Zero-Based Timetabling for Indian Railways (IR)**
Guide: Prof. Kumar Appaiah

2020-2021 **Medical Image Segmentation using UNET based architecture**
Guide: Prof. Amit Sethi

2019-2020 **PyQT based UI to train Machine Learning models**
Guide: Prof. Amit Sethi

2020-2021 **LPC Analysis of Synthesized vowels & Natural Speech**
Guide: Prof. Preeti Rao

2020-2021 **Digital Photography with Flash and No-Flash Image Pairs**
Guide: Prof. Suyash P.Awate