# Kartik Valecha

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**EDUCATION** 

Jaypee Institute of Information and Technology B.Tech. Computer Science Engineering CGPA: 8.0 / 10.0

Indian Institute of Information and Technology Madras BSc Programming and Data Science CGPA: 7.11 / 10.0

# School of Excellence

Intermediate School (XII) PCT: 92.5 / 100

# PROJECTS

# OPTIMIZED COMMUNICATION METHOD FOR CLUSTERED FEDERATED LEARNING

The aim of this research project was to optimize the communication cost in Federated Learning through techniques like Compressed Sensing, which can be used to save significant amounts of data acquired by companies such as Google, Microsoft, etc. (using FL), on clouds.

- Achieved a data reduction of 46.875% with an avg global accuracy of 97.36%.
- Accomplished working model of the proposed approach using Raspberry Pie and sensors (Hardware)
- Technology Used: Python, Machine Learning, Socket.Io

#### Flash-Kard

The project aims to create a flashcard application for memory training. Users can customize and design their own flashcards to store questions/information as per their needs. Additionally, Webhooks are implemented to generate and share daily reminders and progress reports to users over email.

- Front-end: HTML + CSS
- Back-end: Flask (Flask, Flask-login, Flask-restful, Flask-cors, Redis, Celery)
- Database: SQLite3, Flask-Sqlalchemy

#### KHATH

This project aims to create an application that allows users to send and receive emails from other users, enabling formal communication while tracking the record of user activity and sent/received emails.

- Front-end: HTML + CSS
- Back-end: JavaScript
- Database: PHP + MySQL for connectivity

#### EXPERTISE

Data Structure & Algorithm

**TECHNICAL SKILLS** 

Languages: C++, Python Additional Skills: Web Development (HTML, CSS, JavaScript), SQL, Excel, Tableau Technologies/Frameworks: Scikit-Learn, Flask, React, GitHub, Git Soft Skills: Good Communication, Time management, Team management and decision-making.

### CERTIFICATION

- "Google Data Analytic" Coursera
- Excel Skill Virtual Experience Program by JP Morgan Chase & Co
- Data Structures by University of California San Diego

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> Noida, UP 2020 - 2024

Chennai, Tamil Nadu

New-Delhi, Delhi



GitHub Repository, 2022

**Data Analysis** 



Machine Learning

GitHub Repository, 2021

2020 - 2024

2019 - 2020