CAPSTONE PROJECT

PROJECT TITLE :

**Analyzing Demographic And Regional Disparities In Tele - Law Case Registrations
For Inclusive Legal Access**

Presented By :

Student Name : Vishnu Vardhan Reddy Dumpa

College/University Name : Parul Institute of Engineering & Technology

Department : CSE Cyber Security

Student ID : STU6565b6fbca7aa1701164795

GitHub : https://github.com/Vishnureddyvs1/Inclusive-legal-access-insights.git

OUTLINE

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- **Proposed System/Solution**

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PROBLEM STATEMENT

- Despite the growth of India's Tele-Law initiative, **marginalized communities** like SC, ST, and OBC remain underrepresented in legal aid access. Some districts show **low outreach** despite having CSCs, and uneven CSC distribution makes fair comparison difficult. A **data-driven approach** is needed to identify gaps and ensure **inclusive legal access** for all

PROPOSED SOLUTION

To bridge the legal access gap, we built a **data-driven insight system** powered by **IBM Cloud and AI**.
Our solution does more than just show numbers — it helps **uncover hidden inequalities** and **guide action**.

- How It Works

1. Data Collection
   1. Gathered **Tele-Law case registration data** from multiple regions.
   2. Added external factors like **CSC count**, **gender**, **caste**, and **district-level details** for context.

2. Data Cleaning & Preparation
   1. Removed errors, duplicates, and missing values.
   2. Standardized formats for easy analysis.
   3. Adjusted data to **normalize comparisons** based on CSC availability.

3. Analysis & Insights
   1. Used **IBM Watsonx.ai** and **Python** (Pandas, Matplotlib, Seaborn) to analyze patterns.
   2. Compared **gender-wise** and **caste-wise** case registrations across all districts.
   3. Highlighted underserved areas for targeted improvement.

4. Actionable Output
   1. Created **district-level performance reports**.
   2. Provided **CSV exports** for government and NGO use.
   3. Designed easy-to-read **visuals** for policy discussions.

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SYSTEM APPROACH

- Our system is designed to **analyze, compare, and reveal inequalities** in Tele-Law case registrations across India, with the goal of making legal aid more **inclusive and fair.**

- **System Requirements**

- To develop and run the system effectively, we need:

- **Platform:** IBM Cloud for secure and scalable data analysis

- **Data Storage:** IBM Cloud Object Storage for raw and processed datasets

- **Analysis Environment:** IBM Watson Studio with Jupyter Notebooks for data processing, visualization, and AI modeling

- **Visualization Tools:** Charts and graphs for gender-wise, caste-wise, and district-level comparisons

- **Export Tools:** Ability to generate CSV reports for policymakers and NGOs

- **IBM Cloud Watsonx AI Studio**

- **IBM Cloud Object Storage**

- **IBM Watson Studio (Jupyter Notebook)**

- **Python (Pandas, Matplotlib, Seaborn)**

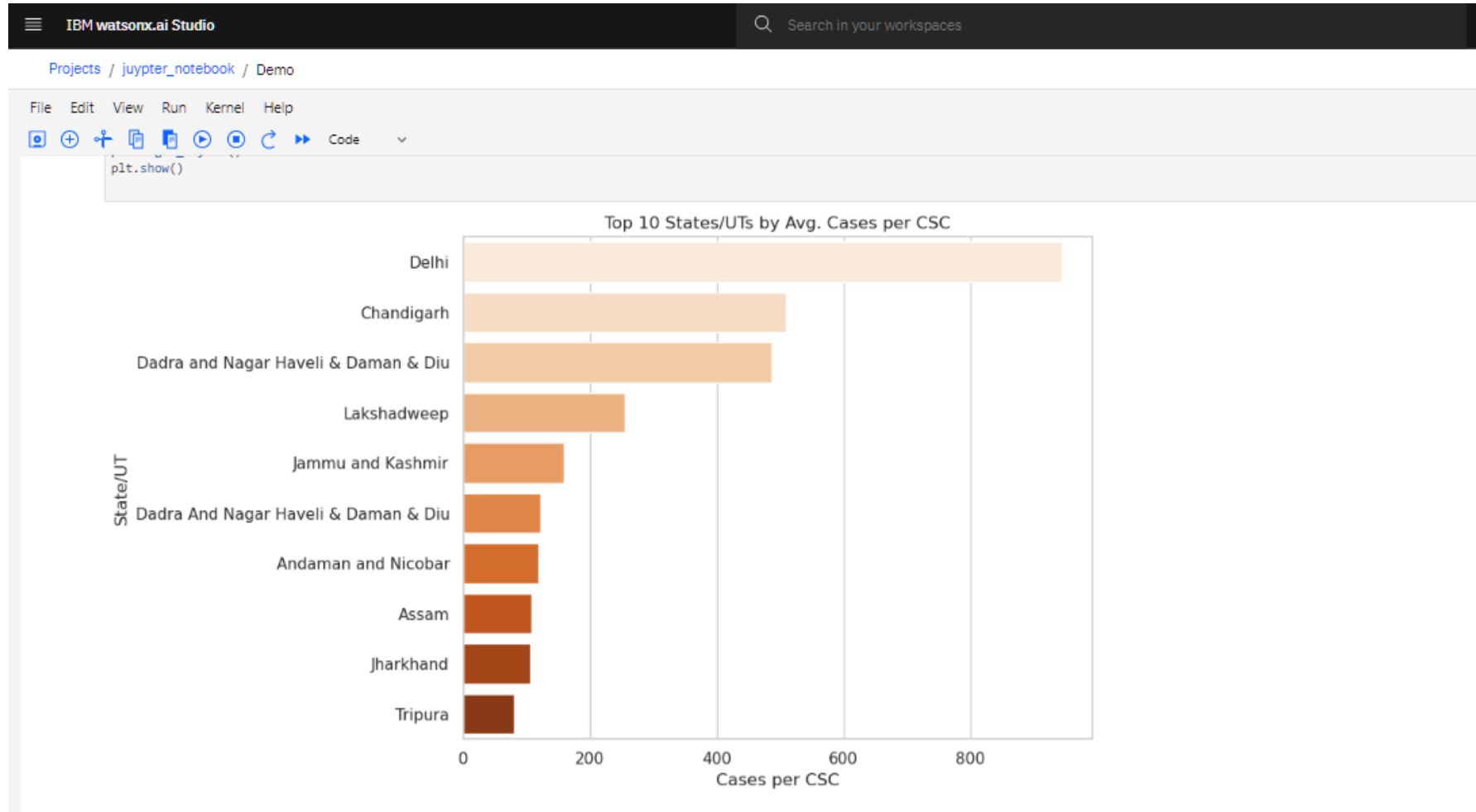edu**net**
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ALGORITHM & DEPLOYMENT

Algorithm

1. **Collect Data** – Tele-Law case records + gender, caste, CSC count.

2. **Clean & Format** – Remove errors, fix missing values, standardize fields.

3. **Normalize Data** – Adjust case counts based on CSC availability.

4. **Analyze** – Gender-wise & caste-wise trends, district rankings.

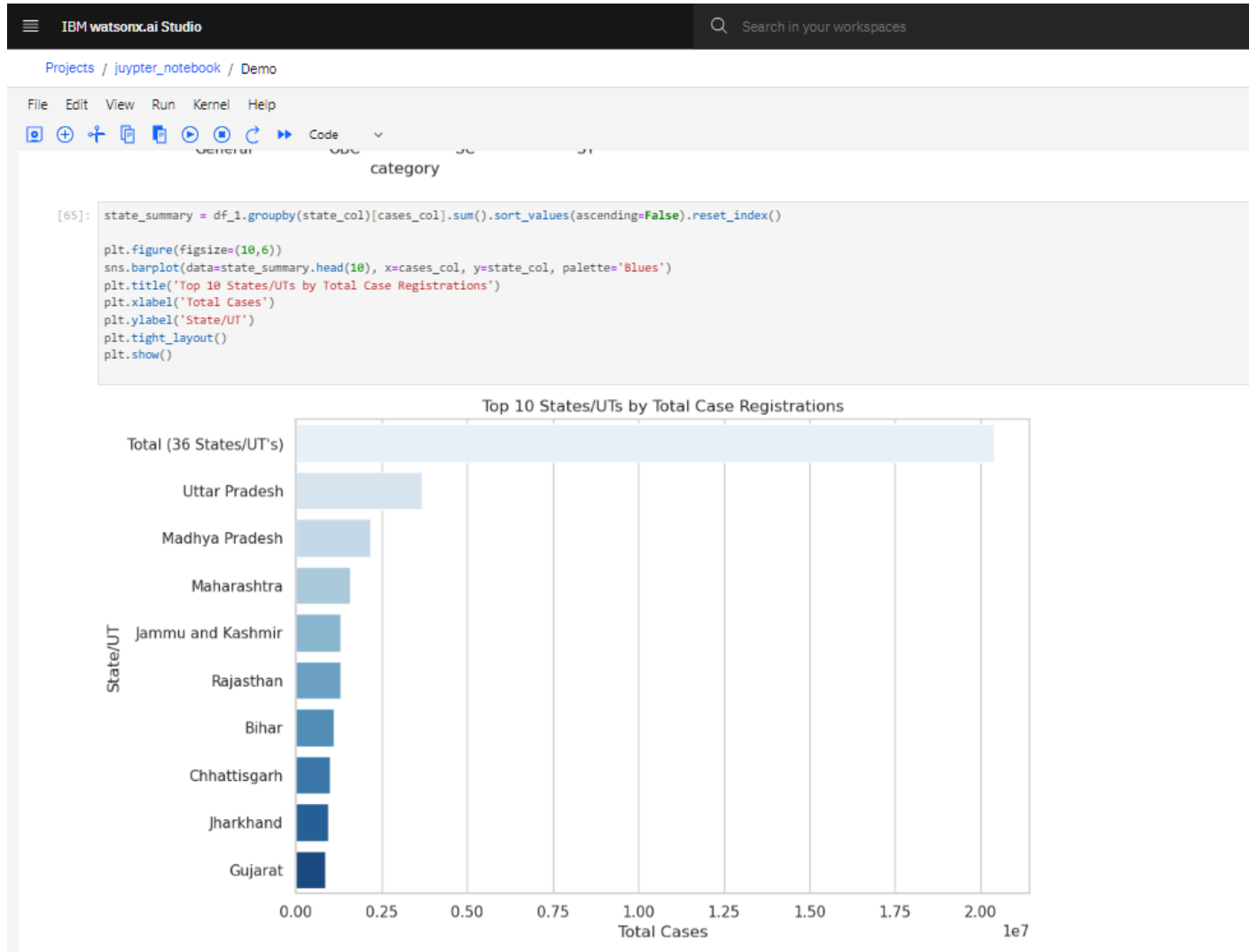5. **Visualize** – Charts & maps for easy understanding.

Deployment

- **Platform:** IBM Cloud for hosting and scalability.

- **Dashboard:** Interactive visuals + filters for gender, caste, district.

- **Export:** Downloadable CSV reports for NGOs & policymakers.

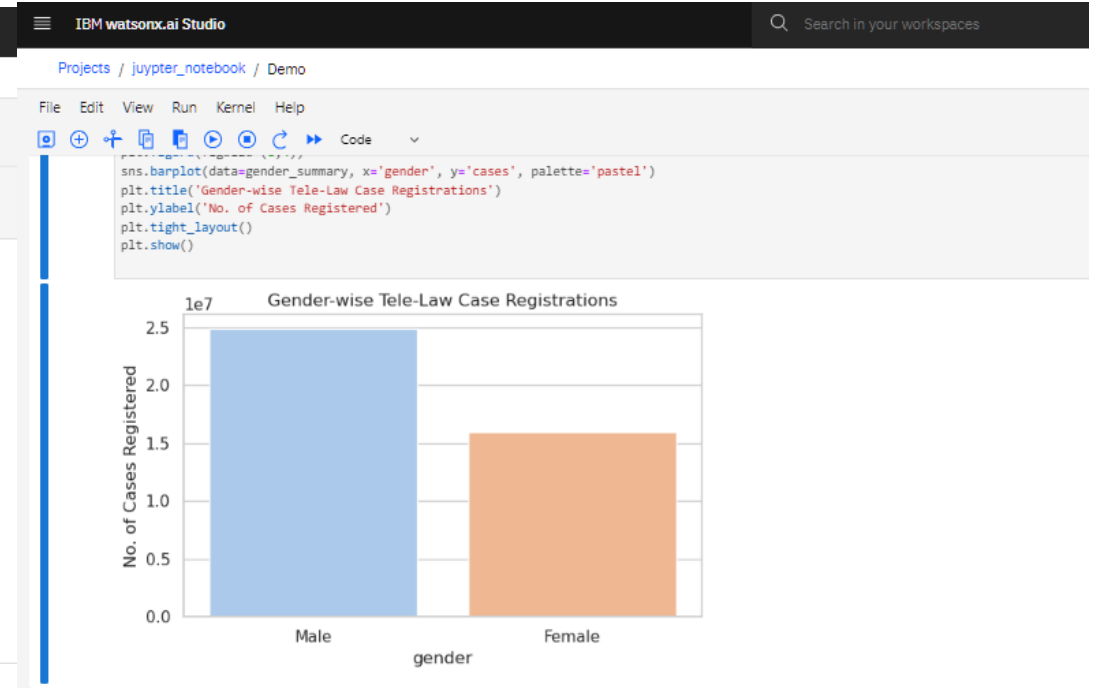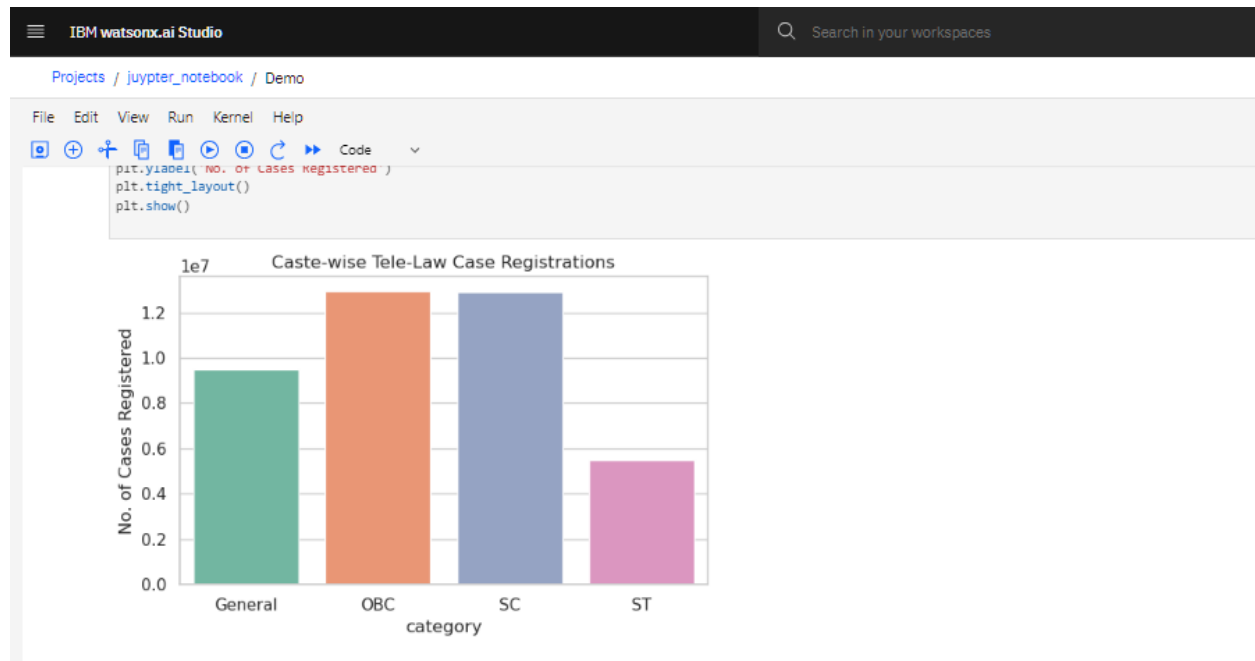- **Future:** Add real-time updates + predictive analysis.

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RESULT

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GitHub Link

https://github.com/Vishnureddyvs1/Inclusive-legal-access-insights.git

CONCLUSION

- Access to justice is not just a legal necessity it's a measure of equality in society. Through this project, we looked beyond the numbers and saw the real picture: **who is being served, who is being left behind, and why.**

- By combining the power of **IBM Cloud, AI-driven analysis, and open data**, we turned scattered case records into **clear, actionable insights**. We identified districts that are doing well despite limited resources and uncovered communities that remain underserved despite existing infrastructure.

- This isn't just a data project it's a **roadmap for action**. It equips policymakers, NGOs, and outreach teams with the clarity they need to direct resources where they matter most.

- The true success of this work will not be measured in charts or tables, but in **the voices empowered, the rights protected, and the lives improved** when legal aid becomes accessible to everyone regardless of caste, gender, or geography.

- We're not just analyzing data.
  We're **building the foundation for a more inclusive, fair, and just India.**

FUTURE SCOPE

- Build **interactive maps** so anyone can see which districts are underserved at a glance.

- Track **changes over time** to measure progress and spot new challenges.

- Use **AI predictions** to plan resources before gaps even appear.

- Connect our analysis with **socioeconomic data** to understand the deeper causes behind low outreach.

- Create **real-time dashboards** for policymakers and NGOs so action can be taken instantly.

- Develop an **AI policy advisor** that suggests the best strategies for improving legal access.

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   2. Matplotlib: https://matplotlib.org/
   3. Seaborn: https://seaborn.pydata.org/

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