AI-POWERED SOLUTION FOR DOMESTIC VIOLENCE PREVENTION

Hackathon Submission for UN SDG 5: Gender Equity- Women and girl's safety

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PROBLEM STATEMENT

Focus:

- **Domestic violence is a prevalent issue in many rural areas, with limited access to resources, support, and intervention programs. In these areas, victims often have few options for escape, and the community may lack the tools to identify those at risk.**

Importance:

- **Addressing domestic violence is critical to achieving UN Sustainable Development Goal 5: Gender Equality, as it directly impacts women and girls' safety, freedom, and empowerment. Identifying risk factors and intervening proactively can significantly reduce violence and improve lives.**

OBJECTIVE

Goal:

- **The objective of this project is to develop an AI-powered solution that analyzes socio-economic data to identify and predict risk factors for domestic violence, providing actionable insights for communities and organizations.**

Target Users:

- **This solution is designed for NGOs, community leaders, and policymakers who can use the data to allocate resources, plan interventions, and provide timely support to individuals at risk.**

SOLUTION OVERVIEW

AI-Powered Approach:

- **The machine learning model assesses various socio-economic factors such as age, income, employment status, education level, and marital status to identify individuals or communities at higher risk of domestic violence.**

Streamlit App:

- **A Streamlit application was built to deliver real-time, actionable insights, providing organizations with easy access to data, visualizations, and predictions for informed decision-making and intervention.**

KEY FEATURES

Risk Factor Identification:

- The app highlights key variables such as age, employment status, income, education, and marital history that contribute to the likelihood of domestic violence.

Predictive Modeling:

- The AI model predicts high-risk cases, helping organizations focus their efforts on those most in need of intervention.

Data Visualization:

- The app features interactive data visualizations (charts, graphs) to help stakeholders interpret complex data and trends, guiding resource allocation and response efforts.

IMPACT ON GENDER EQUALITY

1. **Preventive Action:**
   By providing early warnings, the tool empowers organizations to intervene before violence escalates, thereby preventing harm to women and girls.

2. **Resource Allocation:**
   The app helps communities and organizations allocate resources where they are needed most, ensuring that support services reach the highest-risk individuals or areas in time.

GOOGLE TECHNOLOGIES USED

Google Products Used:

- **Google Colab for model training and experimentation.**
- **Google Drive for storing and sharing data and model files.**

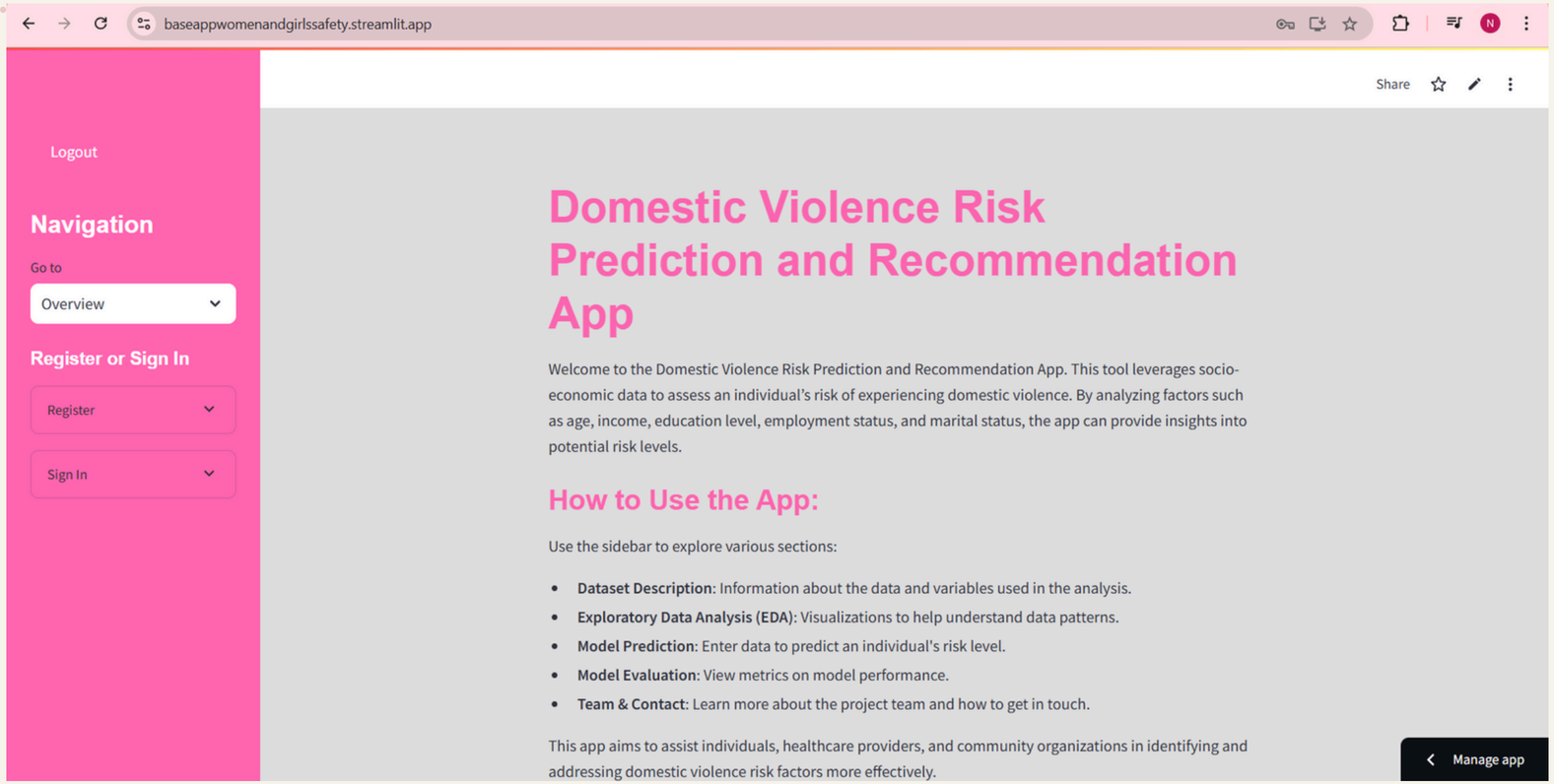
Google Gemini:

- **Google Gemini was used to build and confirm the machine learning models. The model validation process and final model selection were supported by the advanced capabilities of Gemini in AI development.**

Google Gemma:

- **Google Gemma was not used in this project.**

VIDEO DEMONSTRATION



https://baseappwomenandgirlssafety.streamlit.app/

CONCLUSION

Summary:

- **This AI-powered solution offers a data-driven approach to preventing domestic violence by predicting high-risk individuals and providing actionable insights to organizations for early intervention.**

Future Vision:

- **The project has the potential to expand to other regions, integrating additional datasets to improve prediction accuracy. Future developments could include expanding the scope of socio-economic factors and integrating more advanced machine learning models to refine risk assessments.**

THANK YOU

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