AI-Powered Bug Predictor

- Predict software bugs before they happen using AI.
- By: Caren Rayon

Problem

- - Software bugs delay products, crash systems, and cause vulnerabilities.
- - Manual reviews are time-consuming and error-prone.

- **Stats:**
- - ~50% of development time is spent on debugging.
- - Average failure cost: $1.7M

Solution

- AI-Powered Bug Predictor:
- - Analyzes historical software metrics
- - Predicts bug-prone modules
- - Helps developers focus on risky files earlier

How It Works

- - **Input:** Software metrics (e.g., lines of code, complexity)
- - **Model:** Random Forest Classifier
- - **Output:** Bug or no bug
- - **Feature Importance:** Highlights key predictors

Results

- - Accuracy: ~95%
- - Key features: 'mean concave points', 'worst area'
- - Visual output helps in understanding and debugging

Impact

- - Prevent bugs before they reach production
- - Save time and cost
- - Scales to large codebases

Next Steps

- - Integrate with GitHub for real-time scanning
- - Extend to Java, Python, C++
- - Add Explainable AI (XAI) for trust

Thank You

- Let’s Predict Bugs Before They Bite!

- rayoncaren@gmail.com
- GitHub: github.com/caren-ray