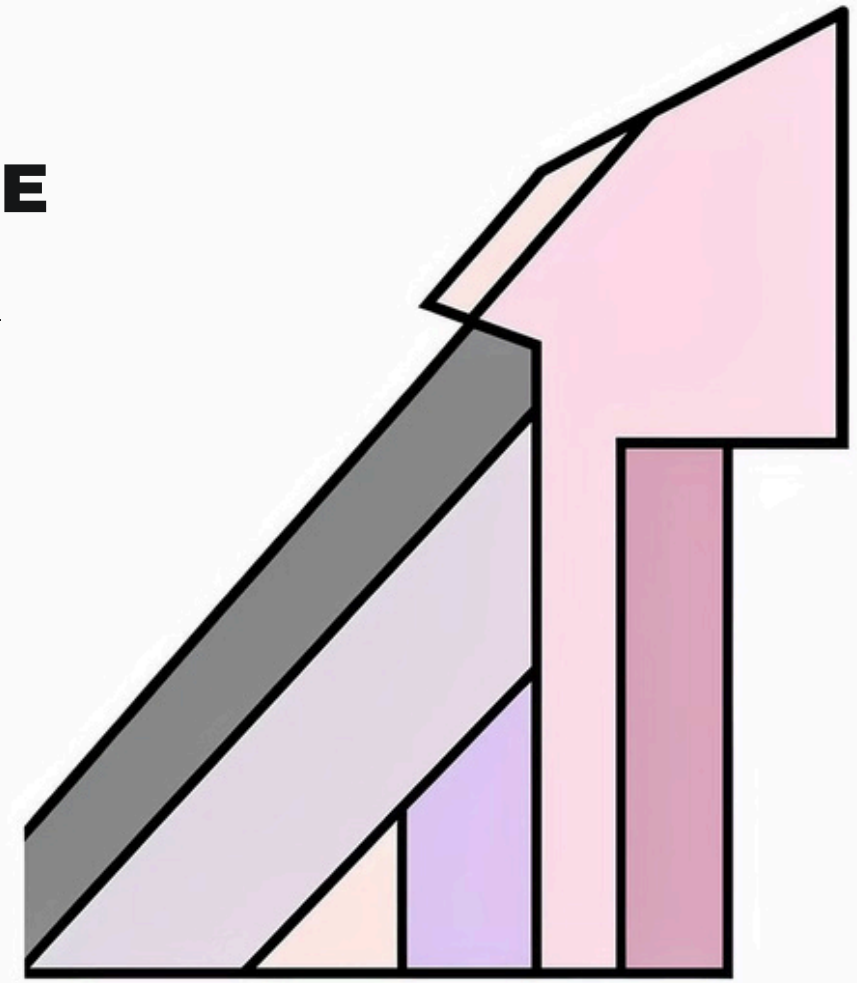
Department: Computer Science and Engineering

# TITLE : WEALTH TO FIRE

AI-AssistedFinancialIndependence &
EarlyRetirementPlanningSystem

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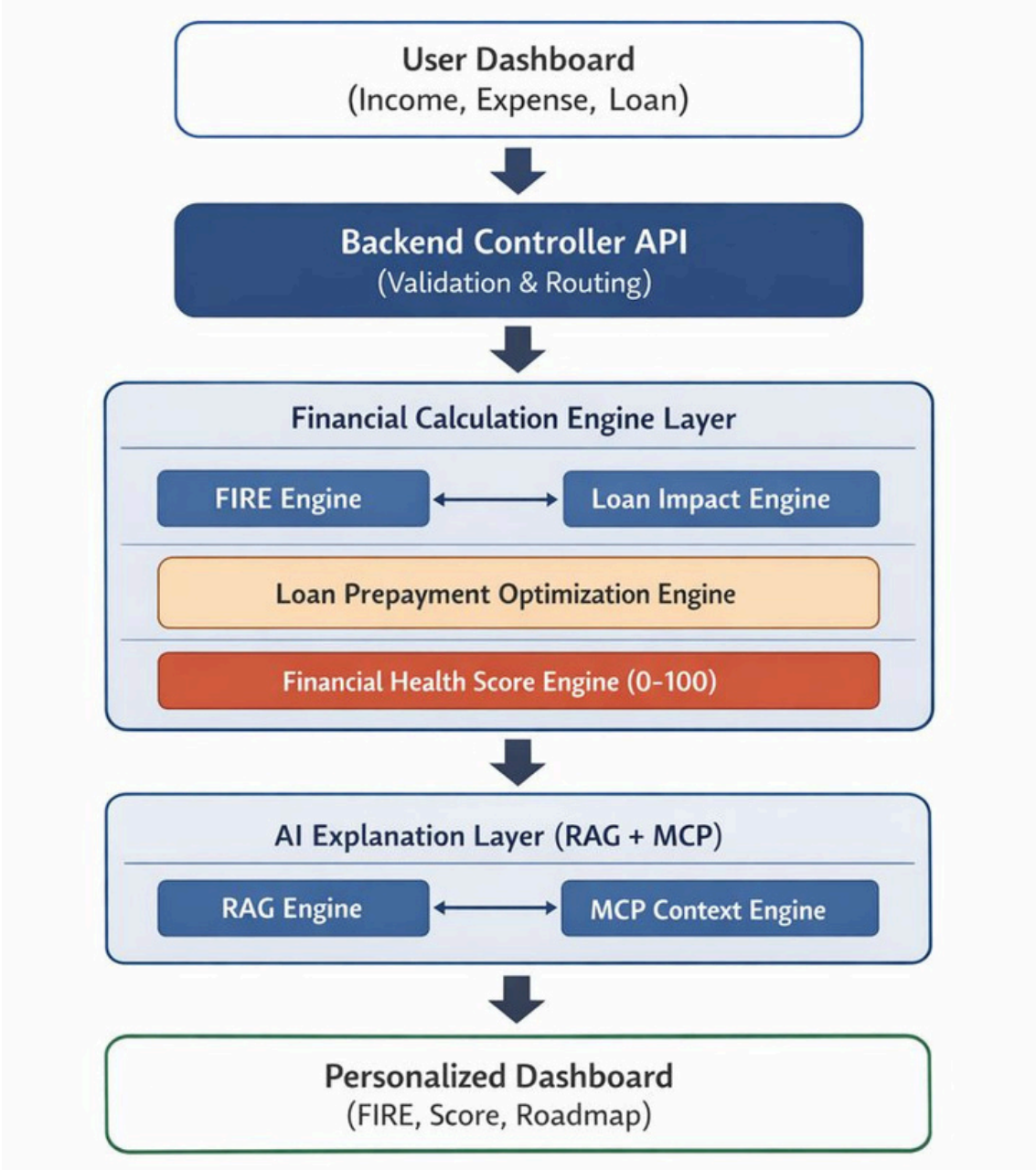
## OBJECTIVE-

- To calculate the FIRE number, years to FIRE, and age at FIRE accurately.
- To analyze the impact of loans and EMIs on the FIRE timeline using real-world financial modeling.
- To suggest optimized loan repayment strategies to reduce FIRE delay.
- To evaluate overall financial stability using a Financial Health Score (0–100).
- To provide explainable and personalized financial guidance using AI techniques such as RAG and MCP.
- To present insights through a user-friendly personalized dashboard.

# ARCHITECTURE-



# PROBLEM STATEMENT- The Gap in Financial Planning

**Mostexisting financial planning toolsprovide onlybasic**

- Existing FIRE tools focus only on basic retirement calculations.
- They do not properly consider loans, EMIs, debt duration, and cash flow.
- The impact of temporary loans on FIRE timelines is not clearly explained.
- Most systems provide black-box results without transparency.
- Users lack actionable guidance to reduce FIRE delays.
- There is a need for an explainable, user-centric system that models loan impact, evaluates financial health, and provides personalized FIRE guidance.

# ABSTRACT-


- Wealth to FIRE is an AI-assisted financial planning system for achieving Financial Independence and Retire Early (FIRE).
- The system calculates the FIRE number, years to FIRE, and age at FIRE based on user financial data.
- It analyzes the impact of loans and EMIs on the FIRE timeline using a two-phase financial model.
- The platform provides loan prepayment optimization strategies to reduce FIRE delays.
- A financial health score (0–100) is generated to evaluate overall financial stability.
- The system integrates deterministic financial calculations with explainable AI using RAG and MCP.
- A personalized dashboard presents transparent insights and actionable recommendations.

# EXISTING SYSTEM ANALYSIS

## Current Approaches-

### Static Results

Provideone-time calculations without dynamic updates or scenario analysis

### Poor Debt Modeling

Loan impact is either ignored completely or poorly explained to users

### No Personalization

Generic advice without tailored roadmaps or corrective strategies

### Black-Box Advice

Recommendations lack transparency and explainability

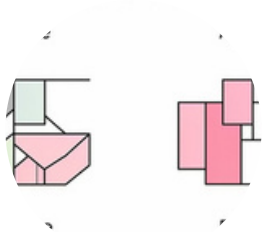
**Key Limitations:**

Lack of personalization, no debt optimization capabilities, absence of explainable insights, and consequently low user trust in the system's recommendations.

# PROPOSED SYSTEM: WEALTH TO FIRE

### FIRE CALCULATIONS

Accurately calculates your FIRE number, years to FIRE, and projected FIRE age based on comprehensive financial inputs

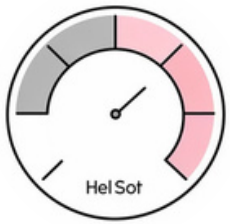


### TWO-PHASE MODELING

Analyzes loanimpact on FIRE timeline through sophisticated before-and-after debt scenarios

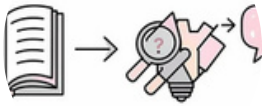
### LOAN OPTIMIZATION

Provides intelligent prepayment strategies to minimize FIRE delay and maximize wealth accumulation




### HEALTH SCORING

Generates comprehensive Financial Health Score (0–100) reflecting overall financial stability



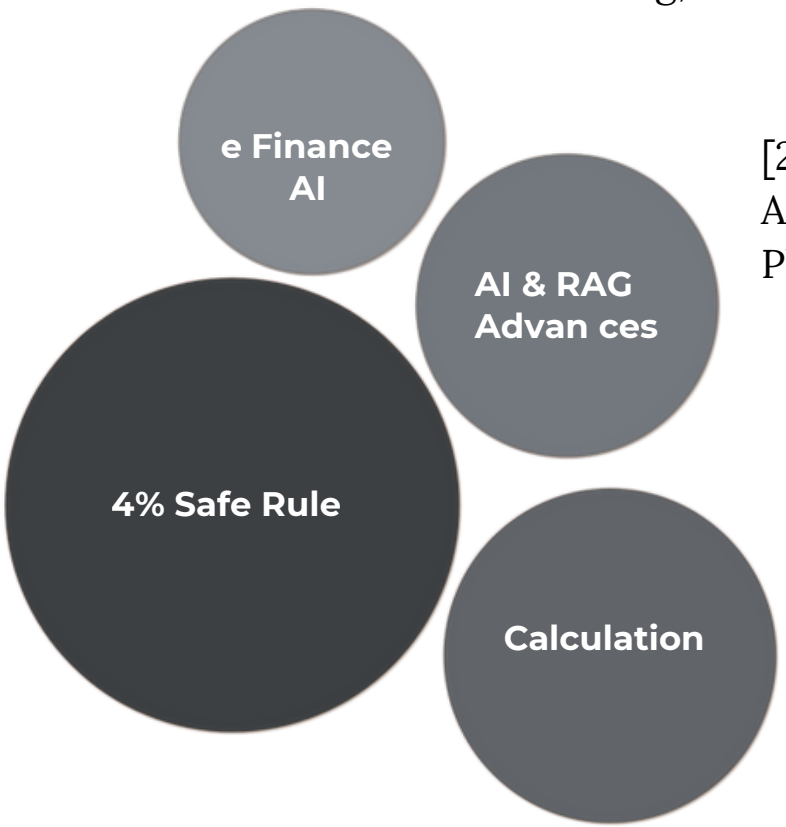
### RAG INTEGRATION

Uses Retrieval-Augmented Generation for accurate, context-aware financial explanations

### MCP PROTOCOL

Safely injects user data and financial rules into AI using Model Context Protocol for secure processing

# Literature Review

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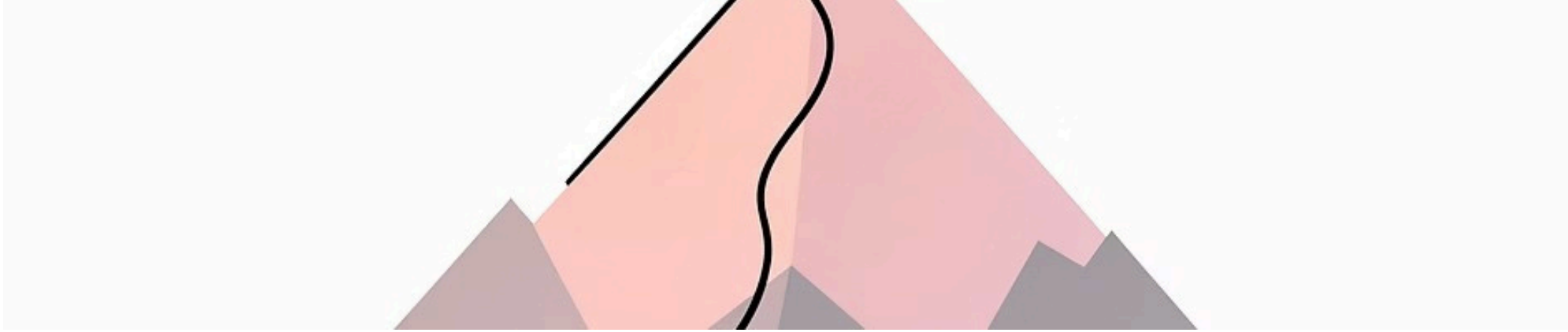
[2] A. Litty, “Explainable AI for Personalized Financial Advice: Building Trust and Transparency in Robo-Advisory Platforms,” EasyChair Preprint 14333, Aug. 2024

[3] M. Talha Mohsin and N. Bin Nasim, “Explaining the Unexplainable: A Systematic Review of Explainable AI in Finance,” arXiv preprint, Mar. 2025.

[4] “Robo-Advisors and Investment Management: Analyzing the Role of AI in Personal Finance,” in Proc. 2024 Int. Conf. Knowledge Engineering and Communication Systems (ICKECS), 2024, pp. 1–5.



## Conclusion

- Wealth to FIRE provides an accurate and realistic approach to FIRE planning.
- The system clearly shows how loans and EMIs delay the FIRE timeline.
- A two-phase financial model improves real-world accuracy.
- Loan prepayment strategies help reduce FIRE delays.
- Financial health scoring gives a complete view of user stability.
- Explainable AI (RAG and MCP) ensures transparency and trust.
- The personalized dashboard supports better long-term financial decisions.