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| Start Project |

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| Load MovieLens M1 Dataset |

| (movies.dat, ratings.dat, users.dat) |

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| Preprocess Data |

| - Merge datasets |

| - Handle missing values |

| - Convert genres to text form |

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| Feature Engineering |

| - Content-based: TF-IDF on genre|

| - Collaborative: User-Movie |

| rating matrix |

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| Choose Recommendation Model |

| [Decision Box] |

| → Content-Based Filtering |

| → Collaborative Filtering |

| → Hybrid Model (optional) |

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| Content-Based | | Collaborative | | Hybrid (Combine both|

| - Compute TF-IDF | | - Use Surprise SVD | | scores with weights)|

| - Cosine Sim. | | - Predict Ratings | | |

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| Get User Input (Movie/User) |

| - Select movie name or user ID|

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| Generate Recommendations |

| - Rank based on similarity |

| - Filter Top N (e.g., Top 10) |

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| Display Results (Table/Plot) |

| - Show recommended movies |

| - Use visuals (bar chart, etc)|

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| End |

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