AI + DS +Healthcare Projects -

Exploring healthcare gaps through a data-driven patient-led lens

USHASREE JAKILINKI –ASPIRING HEALTH DATA SCIENTIST

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Who am I -TBD

My name is Ushasree Jakilinki (https://www.linkedin.com/in/ushasreejakilinki/). I am a Software Program Manager with over 25 years of experience in the Automotive and Mobile sectors. I hold a Bachelor's degree in Computer Science and Engineering, and I have been accepted into the UofM Master's of Applied Data Science program, starting in August 2025. My long-term aspiration is to pursue a Ph.D. in AI and Healthcare.My key areas of passion and interest include Healthcare, Education, Project Management, and Automotive.

Data Access + Partnership Request -TBD

From PCOS to T2D : Can Data Help Change the Equation? Or From PCOS to T2D – Predicting Progression, Changing Outcomes

CAN WE IDENTIFY BIOMARKER TRAJECTORIES & LIFESTYLE FACTORS TO PREDICT AND PREVENT T2D ONSET IN PCOS PATIENTS? PROJECT -1

The Problem & Project Vision

Problem

PCOS is a multifactorial condition impacting endocrine, metabolic, cardiovascular, and emotional health.

Many patients experience delayed diagnosis, misdiagnosis, and lack of targeted intervention.

Common manifestations like acne, weight gain, hair loss, and hirsutism significantly impact a woman's confidence and quality of life.

PCOS has a genetic disposition, but lifestyle changes and management are crucial.

Our Vision

This project aims to explore the longitudinal progression from PCOS to T2D using a data-driven, patient-centered approach.

By leveraging de-identified clinical data, we seek to:
Identify early warning signs and predictive patterns.

Understand the impact of comorbidities (e.g., thyroid, mental health, GI, metabolic).

Analyze lifestyle, medication, and demographic influences on progression.

Why This Analysis Matters: A Personal and 360° View

- I live with Polycystic Ovary Syndrome (PCOS) and have a strong family history of Type 2 Diabetes (T2D).
- My personal health journey has included years of misdiagnoses, frustration, and confusion — but also breakthrough moments through 360° solutions that combined medical care with lifestyle changes. The profound impact on my self-esteem from symptoms like acne, weight gain, hair loss, and hirsutism was a significant personal challenge, often leading to substantial financial costs for management.
- Through this experience, I've discovered the power of comprehensive, data-driven, 360° solutions.
- My story reflects that real, positive health outcomes are possible for millions of underrepresented women with the right data, holistic care, and long-term strategies.

My 360 approach

- 💊 **Medical Support**: I take Metformin to manage insulin resistance.
- 🥗 **Nutrition**: Switched to whole grains, anti-inflammatory foods, and reduced refined sugar.
- ⏱️ **Intermittent Fasting**: Improved energy, reduced cravings, and better glucose control.
- 🧘 **Movement**: Walking, yoga, Zumba and Spinning to improve metabolic and mental health.
- 🧠 **Mental Wellness**: Therapy, mindfulness, and stress management to support hormone balance.
- 📊 **Tracking**: Food reactions, mood, sleep, and symptom patterns over time.
- 🗣️ I have consulted with multiple PCPs, endocrinologists, infertility specialists , gynecologists, Sleep studies and therapists; tried alternative paths like Ayurveda, acupuncture , nutrition and massage; and explored numerous books and videos on the topic.
- 🧗 My story reflects those of **millions of underrepresented women** — real outcomes are possible with the right data, care, and long-term strategies.

PCOS & Type 2 Diabetes: Prevalence & Risk

- **Polycystic Ovary Syndrome (PCOS):**
  - Affects **6-13%** of reproductive-aged women globally.
  - **Up to 70%** of affected women remain undiagnosed.
- **High Risk for Type 2 Diabetes (T2D):**
  - Women with PCOS have a **3-4 times higher risk** of developing T2D.
  - Prevalence of T2D in women with PCOS is **1.5% to 12.4%** (often 7.5-10%).
  - **Key Statistic:** Approximately **50%** of women with PCOS may develop T2D by age 40.
- **Individual Healthcare Costs (Per Patient):**
  - **Lifestyle Interventions:** ~$500-$1,000 annually.
  - **Pharmacological Treatments:** ~$1,000-$2,500 annually.
  - **Multidisciplinary Care:** ~$1,200-$2,000 annually.

To summarize I want to answer
"Can we identify specific biomarker trajectories that predict T2D onset in PCOS patients X years in advance?" or "What lifestyle interventions show the strongest statistical association with delaying or preventing T2D in PCOS patients?"
"Can we identify early signals in PCOS and GDM that tell us who is likely to develop T2D — and when?"

PCOS & T2D: Economic Burden & Data Currency

- **Significant Overall Economic Impact (U.S.):**
  - Total annual cost of PCOS-related comorbidities: **Over $15 Billion** (as of 2021 USD).
  - T2D accounts for **19% to 37.5%** of the total economic burden of PCOS.
  - Estimated annual excess cost for T2D attributable to PCOS: **~$1.5 Billion** (2020/2021 USD).
- **For T2D patients (overall, not just PCOS-related):**
  - Average annual medical expenditures are **~$19,736**, with ~$12,022 directly attributable to diabetes (2022 USD).
  - This is 2.6 times higher than for those without diabetes.
- **Other Major Cost Drivers (U.S. Annual Estimates):**
  - Mental Health Disorders: Over **$4.2 Billion** (2021 USD)
  - Menstrual Dysfunction: ~$2.4 Billion (2021 USD equivalent)
  - Infertility Care: ~$0.95 Billion (2021 USD equivalent)
- **Data Currency:** Information primarily drawn from research and reviews published between **2021 and 2025**. Cost figures are in **2020, 2021, or 2022 US Dollars**, as specified.

What –Requested data

1. Demographics & Medical History:

- Age at diagnosis (PCOS, T2D, Gestational Diabetes) — *Integer / Date*

- Ethnicity / Race — *Categorical (e.g., coded values)*

- Family history (Diabetes, Heart Disease) — *Boolean / Categorical*

- Physical sighs (Physical signs (e.g., Acne, Hirsutism, Hair loss, Skin tags, Acanthosis Nigricans, Oily skin) — Boolean)

- *Food intolerances : Dairy, Gluten or Soy or something else*

- Medical issues (e.g., Thyroid, High Cholesterol, GI issues, Sleep issues, Irregular periods, Hypertension, Gestational diabetes, Infertility diagnosis) — Boolean / Categorical

2. Clinical Signs & Symptoms:

- BMI, weight history — *Float / Numeric*

- Body measurements (e.g., waist circumference) — *Float / Numeric*

- Carb cravings — *Categorical / Boolean*

- Menstrual irregularities — *Categorical / Boolean*

- Anxiety and depression — *Categorical / Boolean*

- Sleep disturbances — *Categorical / Boolean*

What –Requested data

3. Labs & Diagnostics

- Blood glucose (fasting, HbA1c) — *Float / Numeric*

- Lipid panel (HDL, LDL, triglycerides) — *Float / Numeric*

- Insulin levels — *Float / Numeric*

- Hormonal markers (LH, FSH, AMH, Testosterone) — *Float / Numeric*

- Thyroid panel (TSH, T3, T4) — *Float / Numeric*

- Iron studies (ferritin, iron, TIBC) — *Float / Numeric*

4.Medications & Allergies

- Prescribed medications — *Text / Categorical*

- Over-the-counter medications — *Text / Categorical*

- Allergy history — *Categorical / Boolean*

5.Lifestyle Factors

- Exercise habits (frequency, type: yoga, pilates, cardio) — *Categorical / Text*

- Nutrition (if available) — *Text / Categorical*

- Smoking status — *Boolean / Categorical*

- Alcohol use — *Boolean / Categorical*

- Sleep quality — *Categorical / Boolean*

- Stress management practices — *Text / Categorical*

Anticipated Challenges & Mitigation Strategies

1. Data Availability & Access:

Obtaining a sufficiently large, comprehensive, and longitudinal de-identified dataset.

2. Data Quality & Fragmentation:

Inconsistent data collection, missing values, varying coding standards, and data silos.

3. Regulatory & Ethical Compliance (HIPAA):

Strict privacy regulations requiring rigorous ethical review and data use agreements.

4. Long-Term Tracking & Causality:

Establishing clear causal links between interventions/trajectories and T2D onset over many years.

1. Mitigation for Data Availability:

Partner with health systems/research institutions. Leverage existing de-identified cohorts. Pilot with accessible datasets.

2. Mitigation for Data Quality:

Employ robust cleaning, imputation, and feature engineering. Prioritize standardized data sources. Acknowledge data limitations.

3. Mitigation for Compliance:

Focus on de-identified/anonymized data.Collaborate with legal, compliance, and IRB teams.Adhere to highest security/privacy standards.

4. Mitigation for Tracking & Causality:

Identify strong statistical associations. Utilize time-series analysis. Clearly define model scope/limitations.
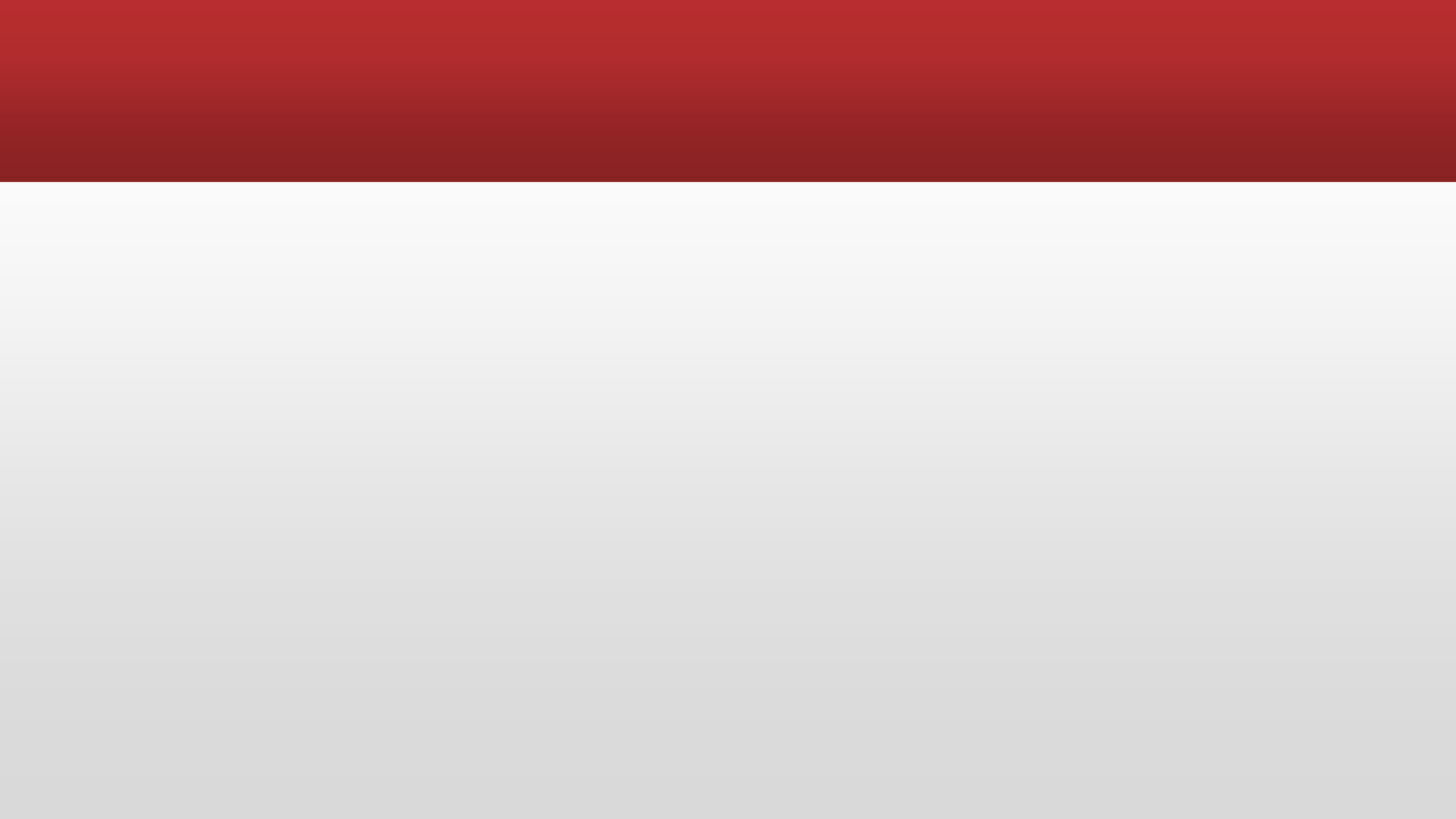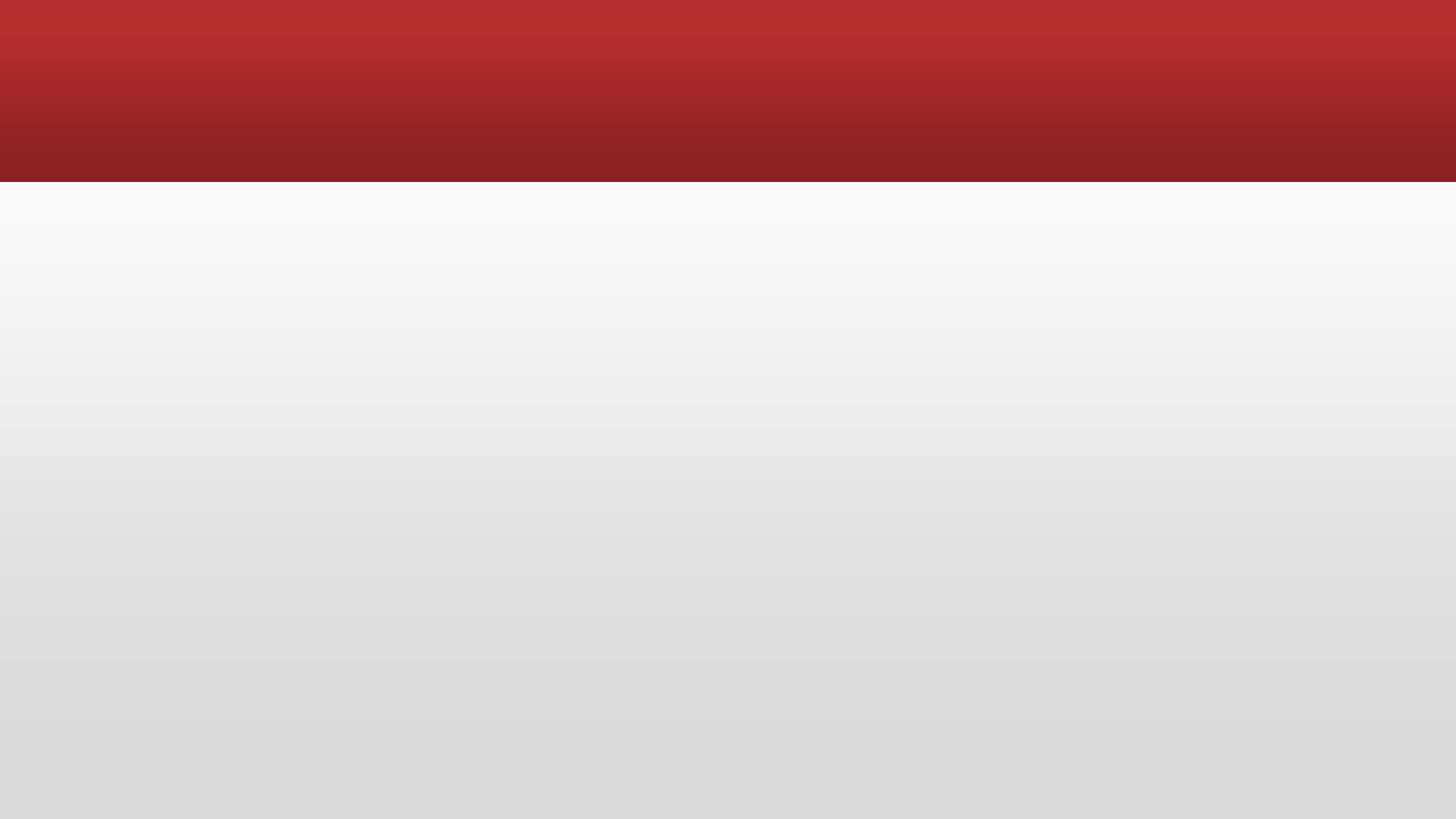
How –Data Science Lifecycle & Proposed Methodology
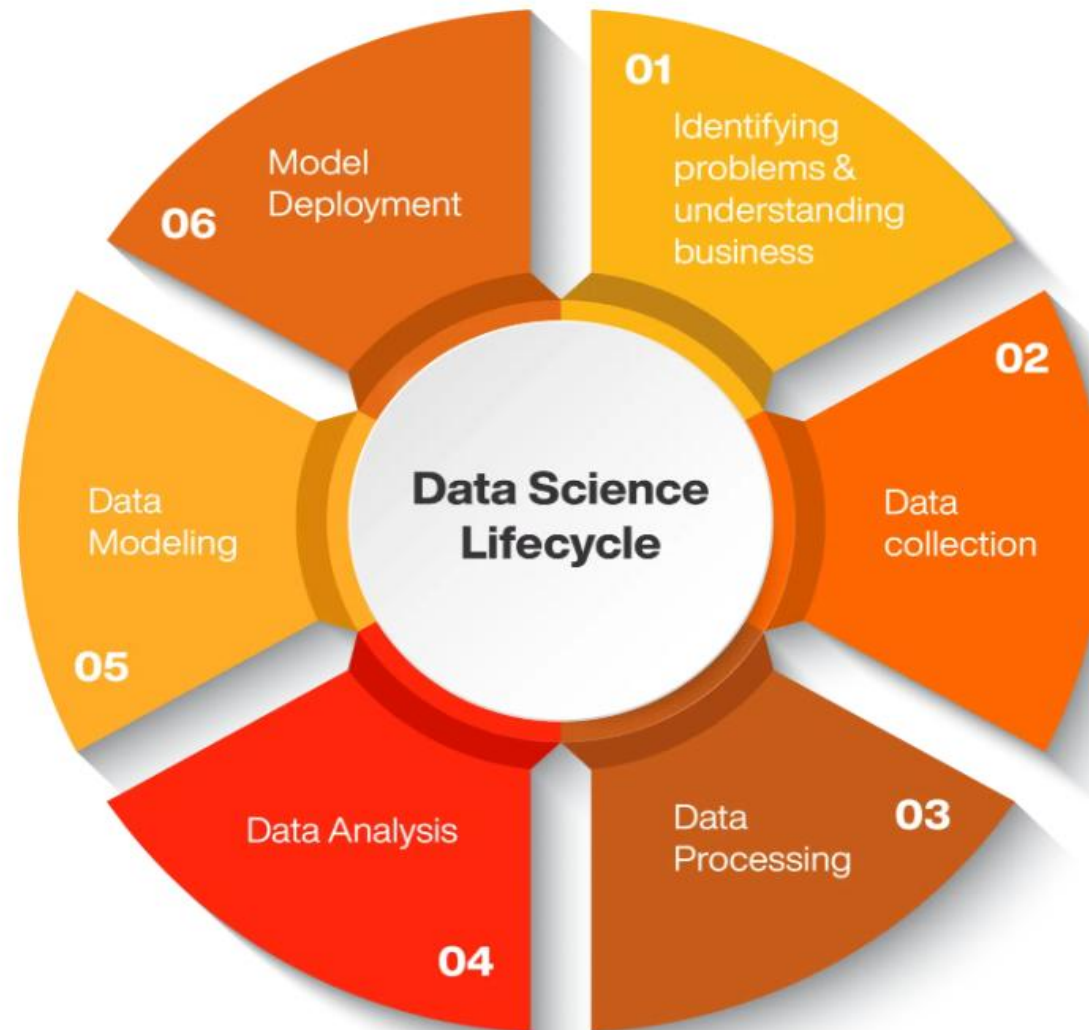
Clinical Decision Support System (CDSS) –Medication Allergy Safety (EHR plugin/Webpage/Mobile App)

PROJECT -2

Why –Medication Allergy Safety

I have a life-threatening dairy allergy — I'm anaphylactic, lactose intolerant, and touch-sensitive. Despite seeing top specialists at UC, Northwestern, and UIC, it took over 5 years to get properly diagnosed.
This experience taught me how complex and overlooked food-based allergies can be.

Recently (March 2025), I was prescribed a medication that contained lactose as an inactive ingredient. Despite my allergy being on file, neither my doctor nor pharmacist flagged it. I spent weeks in pain and had to uncover the issue myself after hours of searching and cross-checking — something no patient should have to do.

Millions of patients rely on medications every day, but hidden allergens put many at serious risk. Allergic reactions can range from hives or digestive issues to life-threatening anaphylaxis, often requiring emergency intervention. Each year, food allergies cause approximately:
•200,000 ER visits in the U.S.
•30,000 hospitalizations
•50% of drug-related allergic reactions go unreported or undiagnosed
This affects not just people like me. It impacts children, seniors, and patients with chronic illness — and the clinicians trying to protect them. I've spoken with FARE (Food Allergy Research & Education), who are advocating for transparency in labeling and safety standards, and I'm closely following the ADINA Act — legislation that would mandate clearer disclosure of allergens in medications.

That's why I want to build Clinical Decision Support System (CDSS)

Why –cont...

Why Allergy Safety Matters: Key Statistics

- 1 in 10 adults and 1 in 13 children in the U.S. have food allergies (CDC, 2023).
- Food allergies lead to approximately 200,000 emergency room visits annually (CDC).
- Around 30,000 food allergy-related hospitalizations occur each year (CDC).
- Severe allergic reactions (anaphylaxis) cause over 200 ER visits daily (AAAAI).
- Up to 50% of medication allergies go unreported or undiagnosed, increasing risks (Journal of Allergy and Clinical Immunology).
- Hidden allergens in medications are a significant but often overlooked cause of allergic reactions (Journal of Allergy and Clinical Immunology).

Why –cont...

- Prevalence:
    - Approximately 6.2% of adults and 5.8% of children in the U.S. have food allergies. (2021)
    - Up to 50% of medication allergies go unreported or undiagnosed, significantly increasing adverse reaction risks.
- Emergency Room Visits & Hospitalizations:
    - Food allergy reactions lead to approximately 200,000 emergency room visits annually. [4]
    - Anaphylaxis, a severe allergic reaction, results in an estimated **45,000-50,000 emergency room visits annually** in the U.S.
    - Around 30,000 food allergy-related hospitalizations occur each year.
- Severity:
    - Over 40% of children with food allergies have experienced a severe allergic reaction, such as anaphylaxis.
- Economic Burden:
    - Caring for children with food allergies costs U.S. families nearly $25 billion annually (adjusted to $33 billion in 2024 dollars).
- The Hidden Danger:
    - Hidden allergens, particularly inactive ingredients (excipients), in medications are a significant and often overlooked cause of allergic reactions. For example, lactose is found in nearly 45% of medications. [9] [10]

What is CDSS

That's why I want to design a **Clinical Decision Support System (CDSS)** — a plugin for electronic health records (EHRs), a mobile app, or web-based tool that:

- **Flags known allergens** (including both active and inactive ingredients) based on a patient's documented allergy profile
- **Pulls accurate ingredient data** from trusted sources like DailyMed, RxNorm, OpenFDA, and FDA Structured Product Labels (SPLs)
- **Automatically alerts** prescribers and pharmacists — before harm occurs
- **Empowers patients** to verify medications independently, with a tool that is accessible and trustworthy

This solution is for anyone with food-based allergies. It's for caregivers, doctors, and pharmacists who want to do the right thing but don't have the tools. It's for every patient who deserves safe care without fear of allergic harm — especially when it's preventable.

How

Where

When

Phases of project

Understanding Appointment Wait Times: A Patient-Centered Data Science Exploration to Identify Root Causes and Opportunities

PROJECT -3

What -The Problem – Access Delays at Top Institutions

University of Michigan is one of the best teaching hospitals in the world, but getting an appointment is a herculean task.

❖ I tried to get an appointment with **U-M Hematology and Dermatology**.
   - I was given a date **6 months out**.
❖ My friend, who is undergoing **cancer treatment**, faced a similar issue.
   - His **chemo was suspended** due to elevated liver values.
   - He was diagnosed with **NASH** and needed a specialist.
   - Even with a referral from his PCP, the earliest appointment was **5 months later (Sept 2025)**.

❖ These aren't isolated events. For many patients the system feels unresponsive when they need it the most

Why It Matters – A Human Perspective

❖ Patients turn to teaching hospitals expecting:
- Access to cutting-edge care
- Care from expert clinicians and researchers
- A chance to contribute to medical learning and improvement

❖ But when appointment delays stretch into months, even super serious conditions where time is limited are left waiting.
- Delays in care can:
  - Worsen outcomes
  - Increase patient anxiety and stress
  - Cause loss of trust in the system
  - Disproportionately affect those who can't self-advocate

For hospitals, it's just another workday.
For patients, it's often a day filled with dread and in some cases maybe the end of their world.

What –My Project Vision-A Patient-Led Data inquiry

To explore and address the root causes behind excessive appointment wait times at top academic medical centers, starting with U of M.

Approach:
- Stakeholder Conversations:
  - Talk to scheduling departments, clinicians, referral teams
  - Understand current bottlenecks and triage practices
- Data Exploration:
  - Identify what scheduling, referral, and wait time data exists
  - Learn what's accessible and anonymized for research
- Root Cause Mapping:
  - Use interviews + data to model where and why the bottlenecks occur
  - Highlight systemic, operational, and equity-driven delays

Long-Term Goal:
To propose data-informed solutions *with empathy and feasibility* — not just from the outside, but from within the system.

How –Data needed

Data Element	Description	Why it Matters	Data Type
Referral/Call Date	When the patient or provider requested appt	Starting point to measure total wait time	DateTime
Response Time	When system or clinic responded	Measures communication efficiency	DateTime
Appointment Date Made/Scheduled	This is the date the appointment was *actually booked* in the system.	The first call/referall might not be documented but the date when the appointment was made has to be	DateTime
Appointment Date Scheduled	Actual date/time of the appointment	To measure delay from referral to appointment	DateTime
Patient Attendance	Did the patient attend, reschedule, or cancel?	Understand patient engagement and no-shows	Categorical (Yes/No/Reschedule/Cancel)
Reason for Appointment	Specialty or condition (e.g., cancer, NASH)	Assess prioritization and risk stratification	Categorical / Text
Referral Source	PCP, ER, self-referral, etc.	Understand referral patterns	Categorical / Text
Outcome After Appointment	Follow-up needed, treatment started, etc.	Connect wait time impact to clinical outcomes	Categorical / Text
Patient Demographics	Age, gender, insurance type, etc.	Check for disparities in wait times	Numeric / Categorical

Risks and mitigation

Category	Challenges (Risks)	Approach
Context + Access	Lack of domain knowledge (outsider) Limited access to systems (e.g., Epic) Data is hard to access	Collaborate with champions, start with patient-accessible or simulated data
Workflow Complexity	Variability across clinics No standard scheduling process Misalignment of incentives	Pilot in one clinic, map actual workflows, look for scalable patterns
Data Limitations	Data might not exist, the appointments exist but is the first call or referral documented ?? Patient voice not in data Privacy/HIPAA concerns	Use surveys/interviews; IRB if needed; simulate or anonymize where necessary
Project Continuity	Loss of access or interest Institutional resistance Changing priorities This is a capstone project, not a budgeting or operational mandate — limits scope and influence	Deliver early results to build trust Engage champions continuously Align goals with hospital priorities Set clear expectations upfront about project scope

Possible findings

Insight Area	What We Might Discover	Why It Matters	Probability of Happening
Data Fragmentation	Scheduling and referral information may be spread across multiple systems (fax, phone, MyChart, printouts)	Understanding where data lives can support smoother workflows and reduce risk of missed referrals	High
Referral Coordination Variability	Clinics may have developed unique processes based on local needs and workflows	Mapping variation can help identify opportunities for alignment, consistency, and shared best practices	High
Patient Voice Gaps	Patient feedback and experiences may not be consistently captured or incorporated	Including patient perspectives helps ensure the system works for those it's intended to serve	Medium
Staffing Capacity Constraints	Some areas may experience appointment delays due to limited clinical or scheduling staff	Understanding staffing patterns can support thoughtful resource planning	Medium
Referral Data Inconsistencies	Referral information may be incomplete, unstructured, or inconsistently entered	Recognizing these patterns can lead to improvements in data collection or template design	Medium
Prioritization Protocol Variation	There may be limited or inconsistent criteria to prioritize referrals by urgency or severity	Exploring prioritization approaches can help ensure patients with urgent needs are seen promptly	High
Coordination Opportunities	Referral-to-appointment pathways may involve many stakeholders and handoffs	Understanding coordination touchpoints can identify ways to streamline communication and improve efficiency	High
	Staff and patients may be unaware of patient	Increasing awareness can strengthen patient	

Summary

Is this a risky project just based on the number of risks ?

Has anybody done this analysis in the past ?

Is there some data at a national or state level on what the average wait time to see a doctor after first call/referral ?

Is there some kind of priority for patients, I know ER's have a priority system but how about hospitals ? Is this common across all hospitals ?

TBD

Did I answer all Questions –Why/When/Where/How/What –NO
Do I have a proposal on how to collect the data ? NO
If I have to collect the data by talking to schedulers what size of data set should I pick, assumption this is a problem with new patients and not existing patients

AI + DS for Proactive Project Management or AI-Powered Project Health or Predicting Project and Program Success with AI

PROJECT -4 PHD

Why This Project is Imperative: Confronting the Obsolete Realities of Project Management

This project, "AI for Proactive Project Management," is not merely an academic exercise; it's a direct assault on the archaic, inefficient practices that continue to cripple modern project delivery. My firsthand experience as a project/program manager for software and ML initiatives over the past three years wasn't merely frustrating—it exposed a fundamental systemic breakdown. We are operating in a bygone era where:

- Manual Tracking Cripples Efficiency: The overwhelming burden on project managers remains a relentless, manual grind of data collection, update chasing, and report compilation. This isn't just tedious; it's a colossal waste of intellectual capital, rendering PMs glorified data entry clerks rather than strategic leaders.

- Reactive Post-Mortems, Not Proactive Solutions: Project management is locked in a detrimental cycle of reactivity. We constantly firefight, reacting to problems only *after* they've derailed timelines or compromised quality, instead of anticipating and mitigating them before impact. This is an unacceptable operational vulnerability in today's rapid development cycles.

Why -cont

- Tools Without True Intelligence: While existing platforms like Jira and RTC provide structure, their metric generation remains a laborious, human-dependent exercise. The promise of integrated dashboards is betrayed by the manual intervention still required to extract actionable insights. They are data repositories, not intelligent co-pilots.

- The Powerless Accountability Paradox: Project managers are routinely burdened with immense responsibility in matrix organizations, yet systematically stripped of the authority and support needed to execute. This creates an untenable position where accountability is absolute, but control is non-existent.

- The Unseen Struggle, The Misplaced Disdain: The perceived ease of a PM's role from an engineering perspective, where "promotions came quickly" from "bothering us," starkly contrasts with the reality. Only by stepping into the PM role did I fully grasp the desperate, manual struggle to extract critical information to manage risk, communicate status, and salvage projects from impending failure. This mutual misunderstanding is a symptom of a broken system.

Why -cont

- This project is a call to arms for the modernization of project management. It demands a shift from reactive, labor-intensive oversight to a proactive, intelligent, and automated paradigm. By aggressively leveraging AI, machine learning, and large language models, this initiative aims to dismantle the manual shackles, predict critical risks, and streamline communication. It is designed to transform the project manager from a besieged administrator into an empowered, strategic orchestrator, capable of delivering projects consistently on time and to agreed quality.

- This isn't merely an academic exploration; it's a direct intervention to infuse intelligence and efficiency into the very core of project execution, creating a future where project success is predicted, not merely reported upon after the fact.

Why -chatgpt

- **Why This Project Matters:**

- *"AI for Proactive Project Management"* is not just an academic capstone — it's a direct challenge to the outdated, inefficient practices that plague modern project delivery. Based on my own experience as a project and program manager for software and ML initiatives, this project is rooted in frustration and transformation.

- Over the last three years, I encountered firsthand the painful reality of a profession caught in the past:

- **Manual Tracking Cripples Efficiency**
  PMs still spend hours chasing updates, compiling reports, and entering data — transforming skilled professionals into glorified administrators.

- **Reactive Culture, Not Proactive Leadership**
  We continue to discover problems only after deadlines are missed. Firefighting has become the norm. Why are we still managing risk with hindsight?

- **Tools Without Intelligence**
  Platforms like Jira and RTC provide structure — but not insight. Dashboards are static, metrics are stale, and "reporting" is still mostly human-driven.

- **Accountability Without Authority**
  PMs are held responsible, yet often lack decision-making power or tools to control the outcome. It's a broken contract.

- **A Misunderstood Role**
  There's widespread underestimation of the PM's job, especially from technical peers. I've been on both sides — I now see the immense, invisible labor required to make projects run.

- This capstone is my response — a call for **transformation**. I propose building a system that uses **AI and machine learning to predict project health**, surface risks early, and reduce manual status reporting through automation and intelligence.

- The goal: to empower project managers not as status chasers, but as strategic leaders — armed with real-time insights, predictive foresight, and organizational support. This is not just data science applied to PM. This is **project management reimagined**.

Why -cont

Column Name	Data Type	Description	Example Entry	Use Case
Course_Name	Text	Name of the MADS course (your "project"). This acts as a project ID.	DS601	Project Grouping, filtering.
Task_ID	Text/Number	Unique identifier for each task. (e.g., DS601-A1, DS602-E2).	DS601-A1	Unique task identification.
Task_Name	Text	Specific assignment, exam, or study block.	Assignment 1 - Python Basics	Individual Task Tracking.
Task_Type	Text	Classification of the task (e.g., Assignment, Lab, Quiz, Exam, Reading Block, Project).	Assignment	Feature for ML, analysis of task types.
Planned_Start_Date	Date	The date you intended to begin working on this task.	2025-08-20	Gantt charts, Lead Time calculations.
Planned_Due_Date	Date	The official deadline or your	2025-08-27	Deadline tracking,

What

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How

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When

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Where

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Beyond Engagement: Cultivating Digital Well-being with Responsible Recommendation Systems

PROJECT -4 PHD

Why

Digital platforms like YouTube and Netflix heavily influence how users consume information, often using personalization algorithms that prioritize engagement over balance or emotional well-being. This can lead to echo chambers, reinforce cognitive biases, and expose vulnerable users to emotionally triggering or one-sided content—especially on sensitive topics like mental health, political ideologies, or emerging technologies such as AI.Currently, users lack tools to explore diverse viewpoints, understand opposing arguments, or filter content based on emotional impact. This absence not only compromises informed decision-making but may also contribute to emotional distress, misinformation, and public distrust in AI.This project proposes a user-centered recommendation framework that embodies the principles of Responsible AI—including fairness, transparency, and emotional safety. By leveraging natural language processing (NLP) techniques such as stance detection, sentiment/emotion analysis, and explainable AI, the system will:- Provide balanced content suggestions showing both pros and cons,- Enable users to control their exposure to sensitive topics,- Offer transparency into why content is recommended.The result is a recommendation engine prototype designed not to maximize clicks, but to inform, protect, and empower users, especially those navigating mental health concerns, polarizing topics, or digital overload.

What

How

Where

When

Beyond Words: Voice-Based Emotion Recognition for Proactive Driver Support

PROJECT -4 PHD

Why

Digital platforms like YouTube and Netflix heavily influence how users consume information, often using personalization algorithms that prioritize engagement over balance or emotional well-being. This can lead to echo chambers, reinforce cognitive biases, and expose vulnerable users to emotionally triggering or one-sided content—especially on sensitive topics like mental health, political ideologies, or emerging technologies such as AI.Currently, users lack tools to explore diverse viewpoints, understand opposing arguments, or filter content based on emotional impact. This absence not only compromises informed decision-making but may also contribute to emotional distress, misinformation, and public distrust in AI.This project proposes a user-centered recommendation framework that embodies the principles of Responsible AI—including fairness, transparency, and emotional safety. By leveraging natural language processing (NLP) techniques such as stance detection, sentiment/emotion analysis, and explainable AI, the system will:- Provide balanced content suggestions showing both pros and cons,- Enable users to control their exposure to sensitive topics,- Offer transparency into why content is recommended.The result is a recommendation engine prototype designed not to maximize clicks, but to inform, protect, and empower users, especially those navigating mental health concerns, polarizing topics, or digital overload.

What

How

Where

When

AI-powered Chatbot for Integrating All Forms of Medicine

PROJECT -4 PHD

Why

Goal: Create an AI-powered chatbot to educate patients on their conditions by integrating all forms of medicine,
including Allopathy, Ayurveda, Traditional Chinese Medicine (TCM), nutrition, lifestyle changes, and more.
Data Needs: Clinical guidelines, health education resources across medical traditions, patient FAQs,
and data on lifestyle modifications.

What

How

Where

When

Title and Content Layout with List

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Title and Content Layout with List

- Capstone Project — Responsible Recommendation Systems for Digital Well-being

- Title:

- Responsible Recommendation Systems: Enhancing Digital Well-being through Balanced Content Discovery

- Problem Statement:

- Digital platforms like YouTube and Netflix heavily influence how users consume information, often using personalization algorithms that prioritize engagement over balance or emotional well-being. This can lead to echo chambers, reinforce cognitive biases, and expose vulnerable users to emotionally triggering or one-sided content—especially on sensitive topics like mental health, political ideologies, or emerging technologies such as AI.

- Currently, users lack tools to explore diverse viewpoints, understand opposing arguments, or filter content based on emotional impact. This absence not only compromises informed decision-making but may also contribute to emotional distress, misinformation, and public distrust in AI.

- This project proposes a user-centered recommendation framework that embodies the principles of Responsible AI—including fairness, transparency, and emotional safety. By leveraging natural language processing (NLP) techniques such as stance detection, sentiment/emotion analysis, and explainable AI, the system will:

- Provide balanced content suggestions showing both pros and cons,

- Enable users to control their exposure to sensitive topics,

- Offer transparency into why content is recommended.

- The result is a recommendation engine prototype designed not to maximize clicks, but to inform, protect, and empower users, especially those navigating mental health concerns, polarizing topics, or digital overload.

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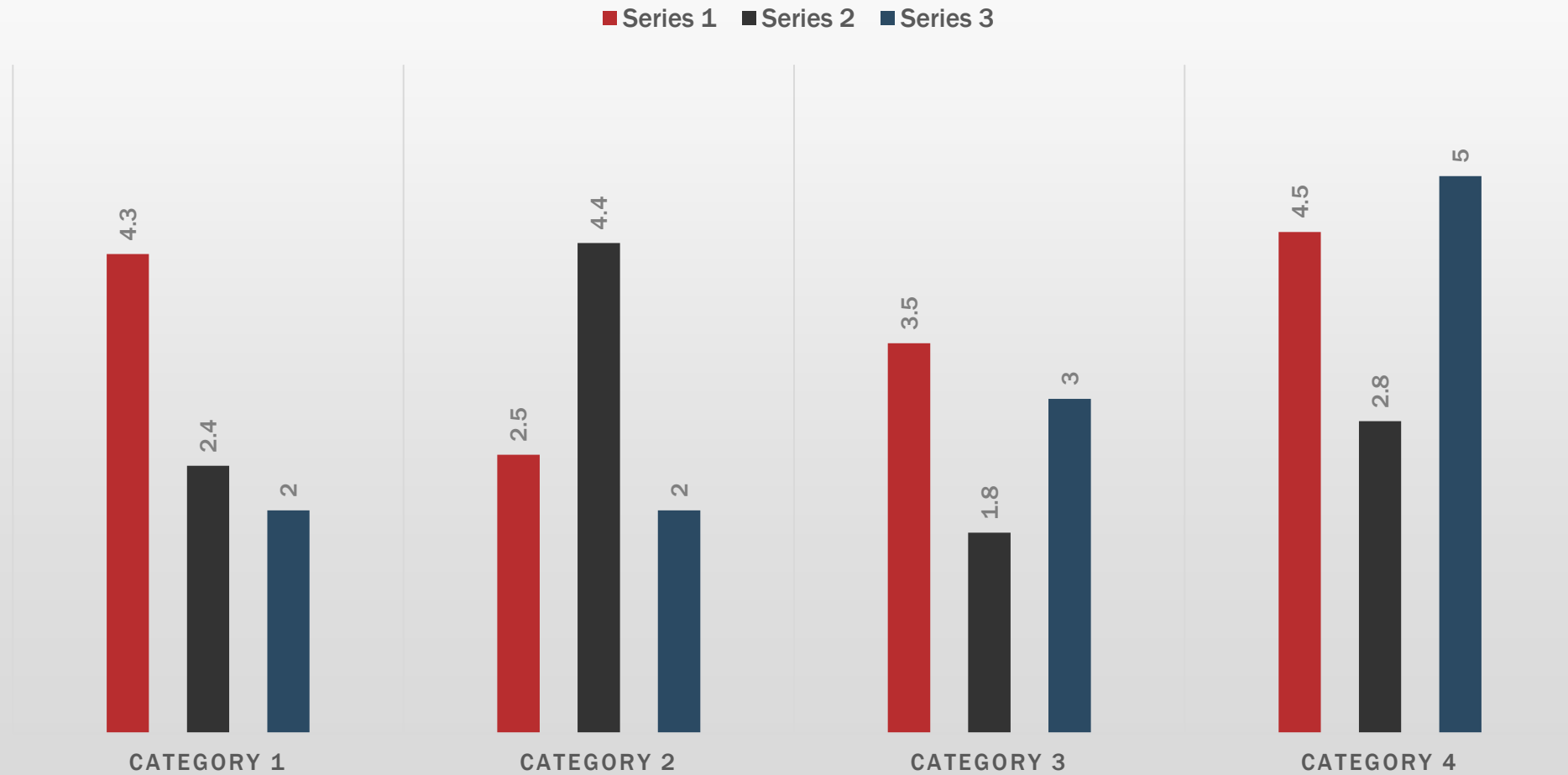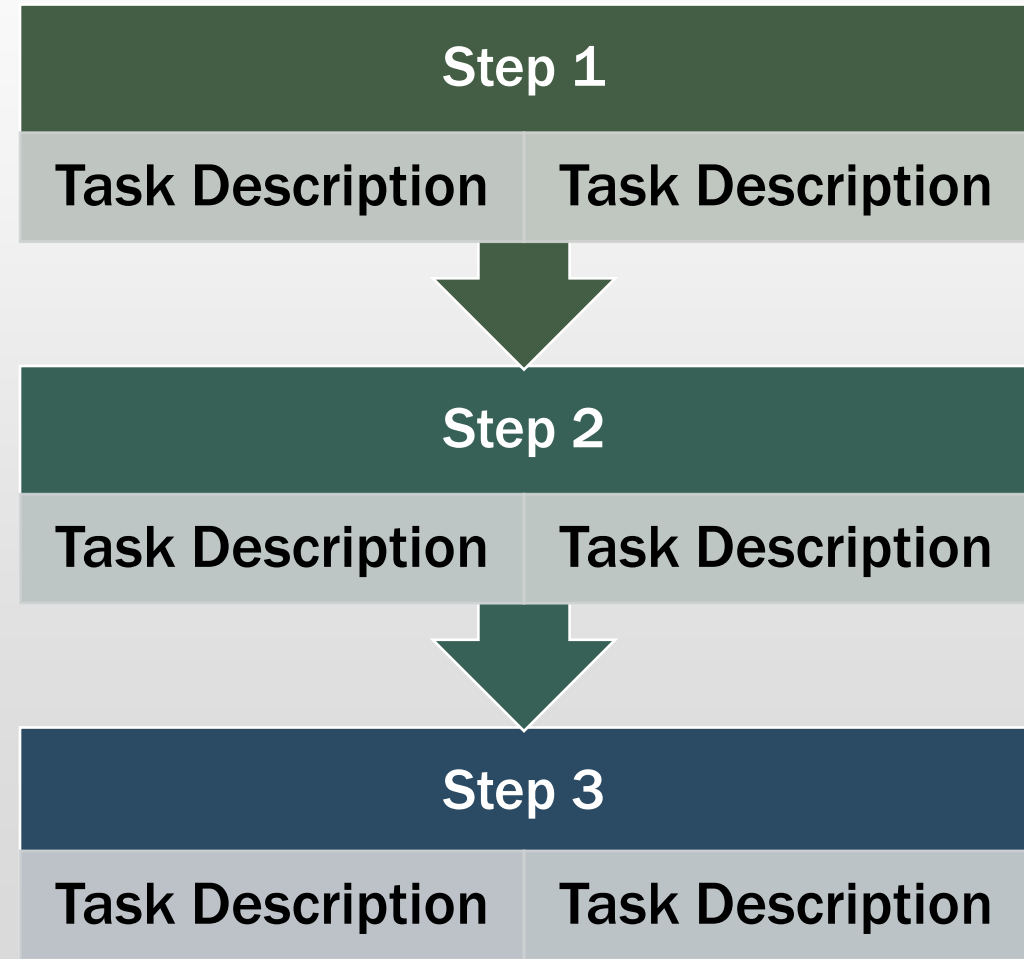
Add a Slide Title - 2

Two Content Layout with Table

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- Second bullet point here

- Third bullet point here

Class	Group A	Group B
Class 1	82	95
Class 2	76	88
Class 3	84	90

Two Content Layout with SmartArt

- First bullet point here

- Second bullet point here

- Third bullet point here

Step 1	
Task Description	Task Description

Step 2	
Task Description	Task Description

Step 3	
Task Description	Task Description

Internship Search — November Plan

ChatGPT keys

Add a Slide Title - 5