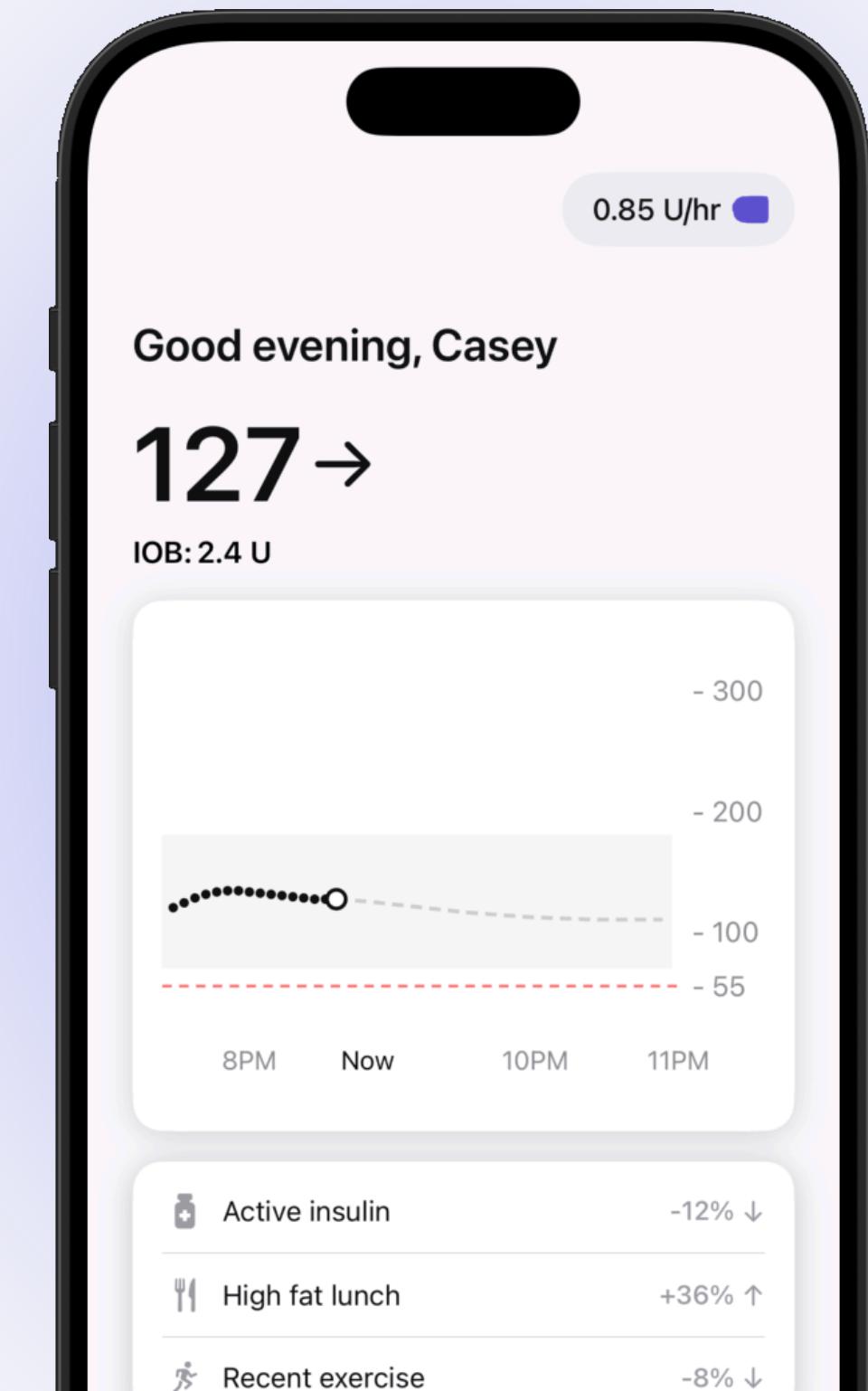


# dossi



AI-guided insulin dosing for Type 1 Diabetes.



ABOUT ME

# Hi, I'm Casey

 Georgia Tech, Industrial Design

 I want to be an **entrepreneur**

 Currently in Idea to Prototype (I2P)

 I have **Type 1 Diabetes**

 Former Breakthrough T1D Youth Ambassador

THE PROBLEM

# My "Smart" Pump Isn't Very Smart

I wear an insulin pump and a continuous glucose monitor.

But it really only knows two things:

1

My current glucose

2

Carbs I'm about to eat



# Two Types of Insulin Delivery

Managing Type 1 diabetes requires balancing two distinct insulin strategies:



## Basal Insulin

Continuous background delivery

- Runs 24/7 at varying rates
- Keeps glucose stable between meals
- Adjusts for sleep, activity, time of day



## Bolus Insulin

On-demand meal-time doses

- Covers carbs you're about to eat
- Corrects high glucose readings
- Varies based on food type and timing

*Current pumps handle both — but only with basic rules. Dossi makes both smarter.*

THE GAP

# What My Pump Doesn't Know

🏃 I ran 2 miles this morning — I'm more sensitive for the morning

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🌙 I slept 4 hours last night — My glucose will run higher

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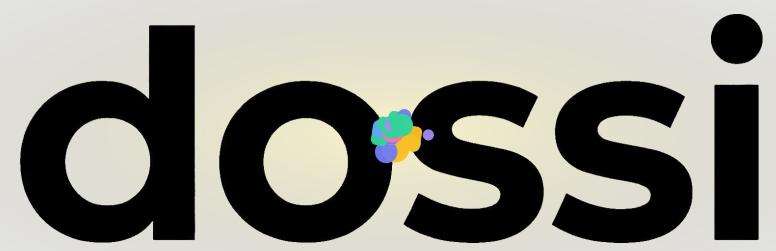
🍕 I'm eating pizza, not salad — Fat causes delayed spike 4 hours later

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🌡 I'm getting sick — My needs are about to double

*I adjust for all of this manually. Every day.*

THE SOLUTION



An insulin advisor that sees the **full picture**

Dossi considers 40+ **factors** and **learns your patterns** over time.

## CONTEXT AWARENESS

# The 40+ Factors



### Glucose

Value, trend, velocity, momentum, quality, staleness



### Insulin

IOB, decay curve, recent boluses, basal rate, type



### Nutrition

Carbs, protein, fat, fiber, absorption, meal type



### Activity

Workouts, time since, intensity, steps, heart rate



### Sleep & Body

Hours, quality, debt, cycle phase, illness, stress



### Environment

Time, day, temperature, site age, location, absorption

# **How It Works**

GETTING STARTED

# Personalized From Day One

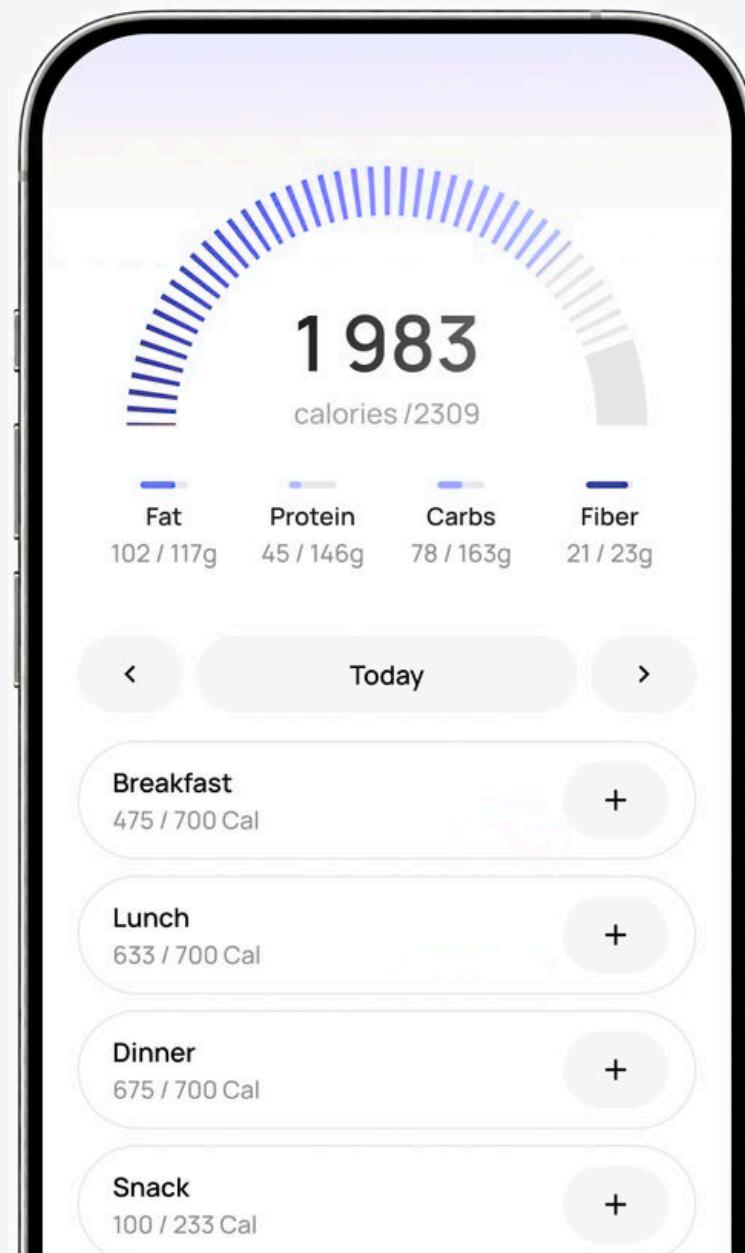
During onboarding, Dossi pulls your historical health data from phone records.

PATTERN	WHAT IT LEARNS
Dawn Phenomenon	Your <a href="#">morning glucose rise</a> timing & magnitude
Exercise Sensitivity	How <a href="#">workouts affect</a> your insulin needs
Basal Patterns	Your <a href="#">hourly insulin</a> requirements
Meal Response	Your <a href="#">food absorption</a> rates by meal type

*With [14+ days](#) of data, machine learning detects your patterns.*

HOW IT WORKS

# Step 1: Photo Meal Recognition

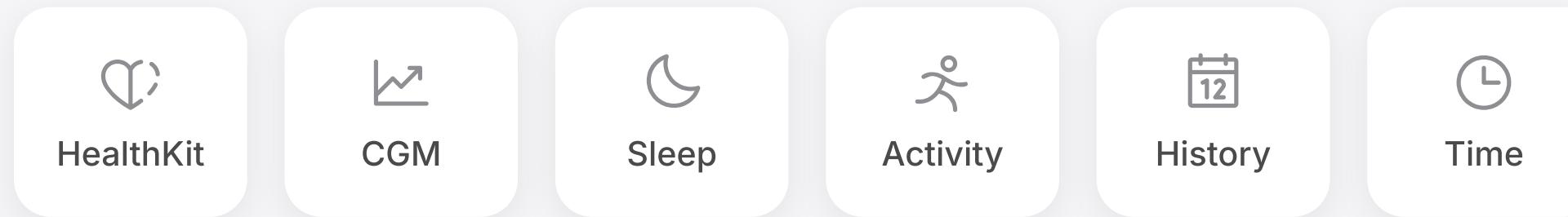


1. Snap a photo of any meal
2. AI identifies individual foods
3. Estimates carbs, protein, fat, fiber
4. Models interaction of different macros
5. Suggests dosage

## HOW IT WORKS

# Step 2: Context Assembly

Every time you log a meal, Dossi pulls data from multiple sources in parallel:



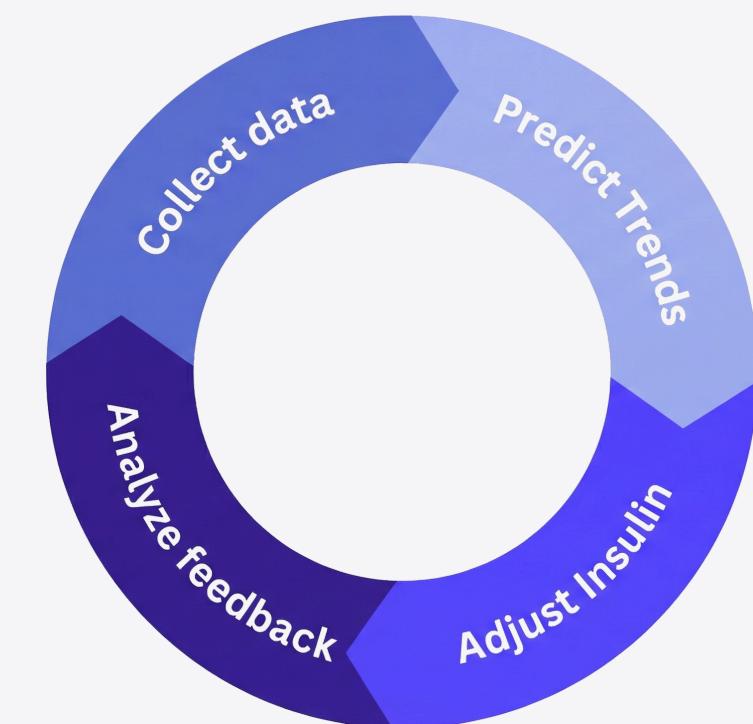
The result: a **complete snapshot** of your current state in under 1 second.

## HOW IT WORKS

# Step 3: The Learning Loop

After every meal, Dossi observes what actually happened:

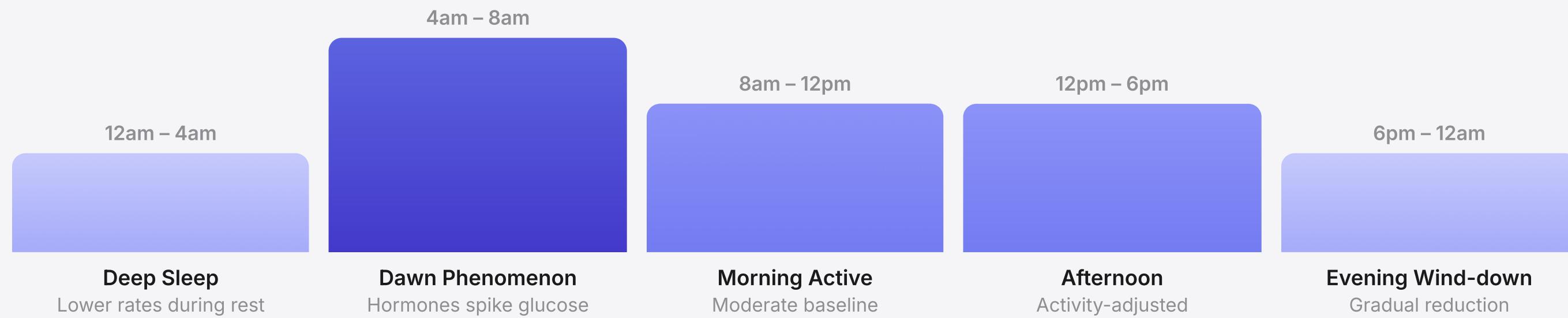
1. **Predict** — Given this context, glucose should land at X
2. **Observe** — Actual glucose was Y (higher or lower?)
3. **Attribute** — Which factors were active?
4. **Update** — Adjust personal sensitivity model for that factor



BEYOND MEALS

# Basal Rate Intelligence

Dossi learns your background insulin needs throughout the day and automatically adjusts delivery.



*Dossi learns YOUR unique patterns and suggests basal adjustments automatically.*

SAFETY FIRST

# 5 Layers of Validation

Insulin errors can be dangerous. Every recommendation passes through graduated safety checks.

1 **Hard Limits** — Max 25U bolus, min 70 mg/dL glucose, max fall rate

2 **Physiological** — Prevents insulin stacking and unrealistic doses

3 **Predictive** — Calculates hypo risk at 15/30/60/120 min horizons

4 **Anomaly Detection** — Validates sensor data quality and flags issues

5 **Learning Validation** — Checks recent outcomes for algorithm drift

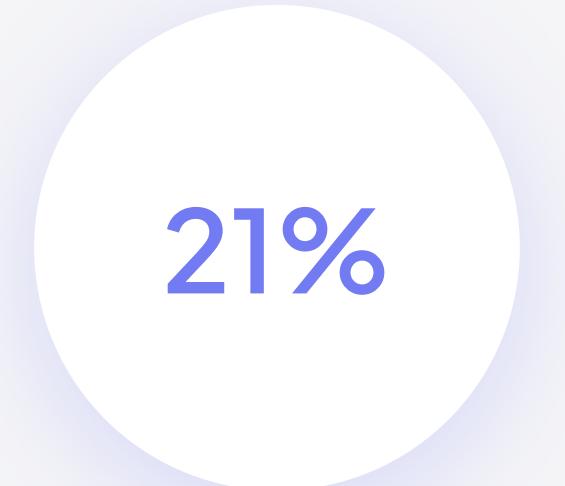
THE IMPACT

## Why This Matters



1.7M

Americans live with Type 1 diabetes.



21%

Only 21% of adults with T1D meet glucose targets.



177+

Extra decisions made per day by people with T1D

BUSINESS MODEL

# Path to Market

The global diabetes care market is valued at **\$72 billion**.

Insulin delivery devices are growing 8% annually.

Regulatory	FDA 510(k) clearance as Class II medical device
Distribution	Prescription app sold through healthcare providers
Coverage	Insurance reimbursement under diabetes management codes
Pricing	\$30-50/month subscription or annual plans



TIDEPOOL.

**bigfoot**<sup>TM</sup>  
BIOMEDICAL

*Tidepool and Bigfoot have proven this regulatory and reimbursement model.*

MOTIVATION

# Why I'm Doing This

 **I live this problem** — I know exactly what's missing

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 **The tech is ready** — HealthKit, Apple Watch, FDA pathway proven

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 **Nobody else is doing this** — Still stuck on glucose + carbs

ROADMAP

# What's Next

## ▶ Now

- Finish build
- Self-testing
- Validate algorithm



## ☀️ Summer

- CREATE-X
- Pilot with T1D users
- Conduct research



## 🚀 Future

- FDA clearance
- Direct pump control
- Push mainstream

MENTORSHIP

## Where I'd Love Guidance

- 1.** Navigating medical design
- 2.** Feedback on my work and suggest improvements
- 3.** Out of the idea realm
- 4.** Possible connections to others who could help me

# Thank you!

