



Asisten Cerdas Kader Posyandu



**AI-powered Stunting Detection System
for Indonesian Health Centers**



Indonesia Healthcare AI Hackathon 2025

Team: Asisten Cerdas Kader Posyandu





Why Stunting Matters



100%

Indonesia faces a stunting crisis!

21.5%

National prevalence (2023)



6.3M

Children affected by stunting



14.2%

Target for 2029



\$25B

Annual economic loss



Every month, 50,000+ children newly identified as stunted





Challenges at Posyandu



Current pain points at community health centers:



Manual Measurements

Inconsistent, error-prone results



Paper Records

Data gets lost, hard to track progress



Kader Overload

1 kader handles 50+ children



Late Detection

Stunting identified too late for treatment



Limited Tools

Measuring equipment inaccurate, outdated



“

"When we measure 50 children by hand, errors happen. We need better tools to help these children."

- Posyandu Kader, West Java





Solution Overview: AI Posyandu Buddy



One Photo → Instant Height Estimation

Mobile-first App

Designed specifically for Posyandu kader



AI Vision Technology

Smart anthropometry measurements



Offline Capability

Works without internet + auto tracking



Fun Education

Early warnings & parent education

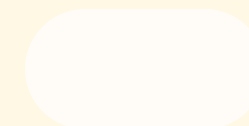


First AI anthropometry for Posyandu – 3× faster & more accurate!





Key Features & Unique Value



Smart tools for healthier children!



Smart Photo Capture

Take a photo of child with A4 paper as reference object



Accurate Measurement

Instant & accurate height estimation within $\pm 2\text{cm}$



Growth Visualization

Interactive growth chart tracking with WHO standards



Child Profiles

Digital records with automatic data saving & history



Stunting Alerts

Early warning system for stunting risk detection



Parent Education

Nutrition tips & child development guidance

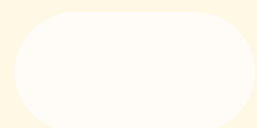


Works offline! Perfect for remote Posyandu locations!

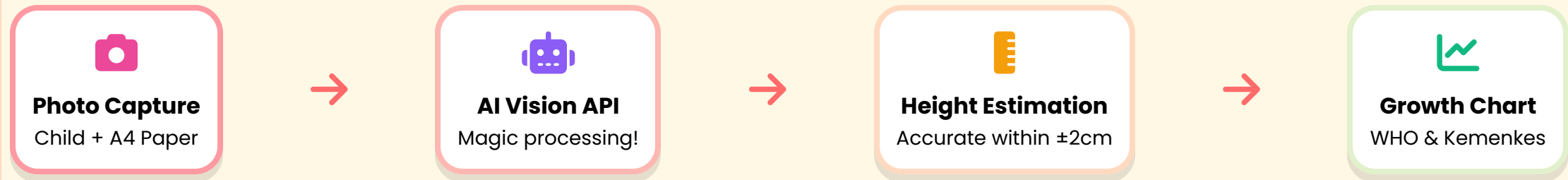




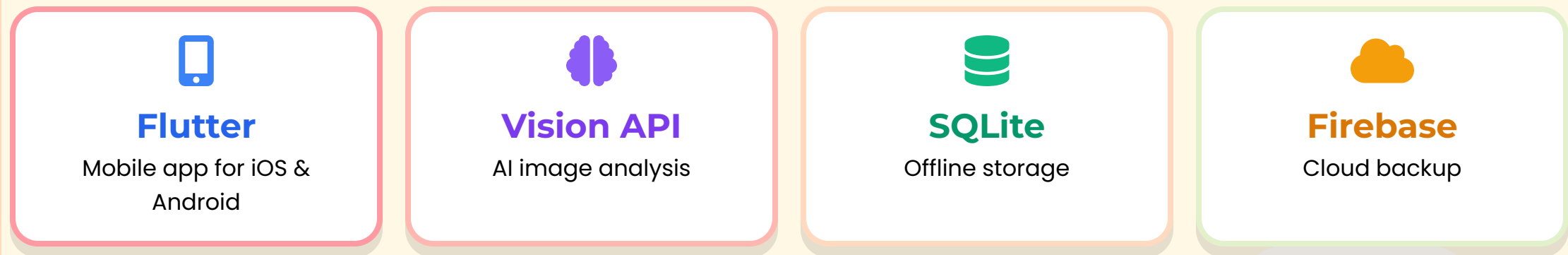
AI Technical Magic!



How Our AI Works:



Tech Stack:



Works Offline!

Perfect for remote Posyandu with limited internet access





Growth Tracking Demo Flow



How our app works for Posyandu kader:

1



Login & Select

Kader logs in and selects child from list

2



Take Photo

Guided photo with A4 paper reference

3



AI Analysis

Calculates height and Z-score automatically

4



Growth Chart

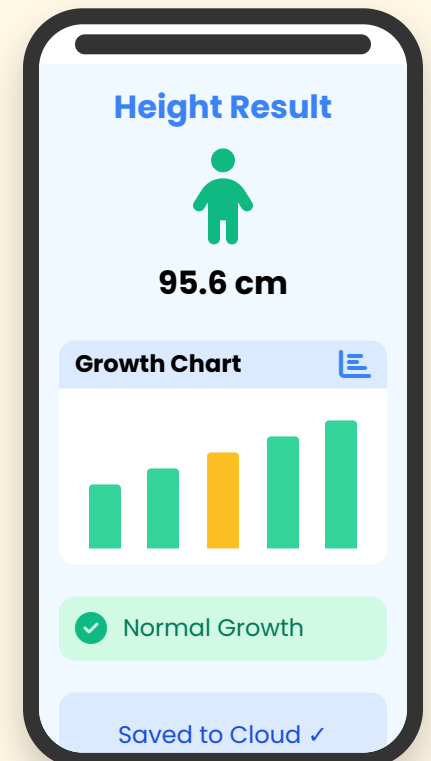
Visual growth tracking & stunting warning

5



Auto Save

Data saved to child's growth record



Uy Target Market & Reach

Our Posyandu Impact Across Indonesia!

280,000+

Kader volunteers



9,993

Posyandu health centers



10M+

Children under 5



8M+

Mothers monthly



\$1.2B

Allocated for stunting prevention



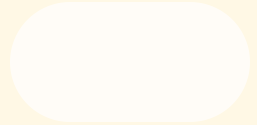
Our app reaches health workers across all provinces of Indonesia!



Our solution impacts communities where stunting rates are 15–35% across provinces



Expected Impact



Making a real difference for Indonesian children!

1M+

Children measured with higher accuracy



50%

Faster Posyandu sessions



6

Months earlier detection

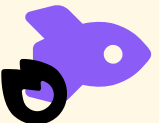


\$50M

Saved in healthcare costs



Prevention is better than treatment!





Competitive Landscape



Manual Method



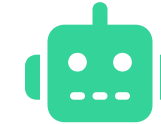
- ✗ Inconsistent measurements
- ✗ Time-consuming process
- ✗ Paper records easily lost
- ✗ No real-time tracking

Digital Tools



- ✓ Digital records saved
- ✗ Still manual measurements
- ✗ Not designed for Posyandu
- ✗ Requires internet connection

Our AI Solution



- ✓ AI-powered measurements
- ✓ Works offline in remote areas
- ✓ Made for kader workflows
- ✓ Early detection & warnings

Our AI Advantages:

* **AI-powered measurement**– First in Posyandu setting

Offline-first design– Works in remote areas

 **Kader-centric UX**– Designed specifically for volunteers

 **Indonesian context**– Follows local Posyandu protocols

 **Cost-effective**– Leverages existing smartphones





Team Posyandu Power



ADIM

AI & Tech Lead

- ✓ Health AI expertise
- ✓ Computer Vision
- ✓ Mobile Development



AAA

Healthcare Expert

- ✓ Posyandu Coordinator
- ✓ 5+ years experience
- ✓ Workflow validation



BBB & CCC

Research & Field Ops

- ✓ Data collection
- ✓ Kader interviews
- ✓ Training development



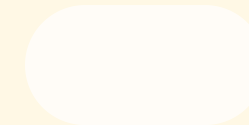
Our Superpower: Field validation with real Posyandu insights!







- ✓ Healthcare + Tech combination
- ✓ Community connection through healthcare network
- ✓ User-centered approach with real kader insights



Budget & Sustainability






Development Costs

-  AI Vision Setup: **Rp 800,000**
-  Algorithm Calibration: **Rp 1,200,000**
-  Mobile App: **Rp 700,000**
-  Field Testing: **Rp 300,000**

 **Total: Rp 3,000,000**

Monthly Operations

-  AI Vision API: **\$15/month**
-  Cloud Database: **\$10/month**
-  App Hosting: **\$5/month**

 **Total: \$30/month (~Rp 450,000)**



Revenue Model (Post-Hackathon)



Government Partnership

Licensing to Kemenkes (\$100K/year)



Regional Implementation

Provincial deployment (\$10K per province)



Training & Support

Kader training programs (\$5K per region)



Premium Features

Advanced analytics for managers (\$50/month)

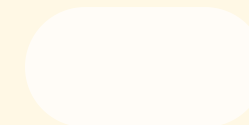


Y1: \$150K • Y2: \$500K • Breakeven: Month 6





Implementation Roadmap



48h

Hackathon Phase



📱 Core app functionality

📋 First data collection

6M

Early Testing (0-6 Months)

🏠 10 Posyandu pilot sites

👤 100 kader trained & using app

👶 1,000+ children measured



12M

Regional Expansion (6-12 Months)

🗺️ 3 province full deployment

👥 1,000+ Posyandu implementation

👶 10,000+ children monitored



2Y+

National Rollout (Year 2+)

🇮🇩 All 34 provinces covered

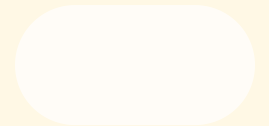
🏠 5,000+ Posyandu nationwide

👥 100,000+ children in system





Evidence & Validation



Facts & Figures That Support Our Solution

21.5%

Stunting prevalence (2023)



±2cm

AI vision accuracy vs manual



89%

Rural mobile penetration



85%

Kader willing to use digital tools



Stunting Reduction Progress



0%

Target 2029: 14.2%

50%



Data Sources: SSGI, WHO Growth Standards, Ministry of Health





Scaling & Partnerships 🤝

Working together for healthier children!



Government Partners

- 🏠 Kementerian Kesehatan – Policy support
- 🏠 Kementerian Desa – Rural implementation
- 👨‍👩‍👧‍👦 BKKBN – Family planning integration
- 🏠 Provincial Health Offices – Regional deployment



Academic Partners

- 👨‍🎓 Fakultas Kedokteran UI – Clinical validation
- 💻 ITB/ITS – Technical development
- 🔬 Research Institutes – Long-term impact studies



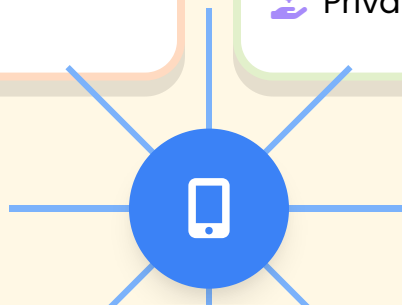
Implementation Partners

- 👨‍👩‍👧‍👦 Posyandu Network – Frontline deployment
- ❤️ NGOs – Community mobilization
- 📱 Telecom Companies – Connectivity support



Funding Partners

- 👨‍👩‍👧‍👦 UNICEF Indonesia – Child welfare focus
- 🌐 World Bank – Stunting prevention programs
- 💰 Private Foundations – Healthcare innovation grants



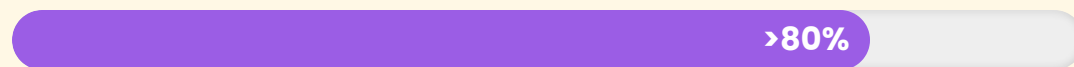


Success Metrics & SDGs

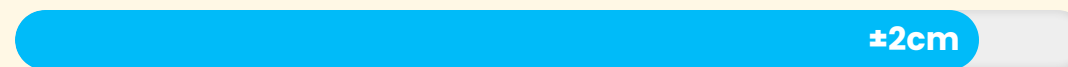


Our Impact Measurements

Kader Adoption



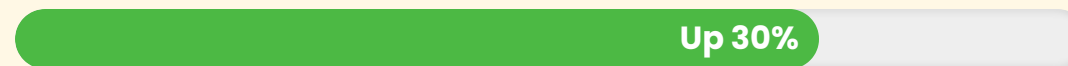
Measurement Accuracy



Children Monitored (Year 2)



Early Detection Improvement



Supporting UN Sustainable Development Goals



Zero
Hunger



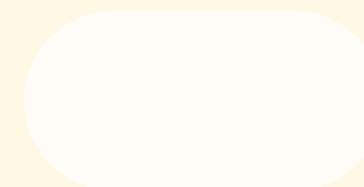
Good
Health



Gender
Equality



Reduced
Inequalities





Let's Build a Stunting-Free Future Together!

Empower every kader with AI, for every child in Indonesia!



What We Need:

- Hackathon pitch opportunity
- Mentorship from healthcare experts
- Validation from Posyandu network
- Connections with Kemenkes & NGOs



What We Deliver:

- 48-hour MVP demo
- Scalable tool for national use
- Field-proven workflow
- Measurable stunting reduction impact

Contact Us:



Team Lead: ADIM



posyandu.ai@hackathon2025.id

#

@AsistenCerdasPosyandu