NewraLab Pitch Deck

1. Title

NewraLab（苏州拟界智能科技有限公司）
Building Multimodal, Low-Resource AI for Real-World Impact
Founder: Yunusa Haruna, PhD
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2. Vision & Mission

Vision: Make advanced AI practical everywhere, not only where compute and data are abundant.
Mission: Build efficient, multimodal AI systems that operate reliably under limited data, compute, and infrastructure constraints.

3. The Problem

Current foundation models:

- Are compute- and data-intensive
- Rely heavily on cloud-scale infrastructure
- Underperform in noisy, sparse, or edge environments

This limits AI adoption in sectors like agriculture, climate resilience, healthcare, and public infrastructure.

4. Our Solution

NewraLab develops linear-complexity, physically grounded AI architectures that:

- Learn effectively from limited data
- Preserve multimodal reasoning (vision–language–signals)
- Deploy efficiently on NVIDIA-powered cloud and edge platforms
- Our approach bridges foundation models → efficient deployment

5. Core Products

Gamba-Vision Suite

- Lightweight vision and vision-language backbones
- Designed for edge and low-resource deployment
- Open-source core with commercial extensions

Initial applications: agric. monitoring, climate risk detection, smart infrastructure, and healthcare imaging.

6. Technology Differentiation

- State-space & dynamical-system architectures as alternatives to Transformers
- Linear computational complexity for scalability
- Knowledge distillation from large foundation models (e.g., CLIP)
- Physically grounded inductive biases for robustness

This results in high performance per watt and per dollar.

7. Technical Validation

- ICCV 2025 – ECLR Workshop
  - Tiny-vGamba accepted
  - Selected as 1 of only 3 **Oral Presentations**
- Publications in ICCV Workshops & TMLR
- Open-source benchmarks demonstrating efficiency gains

8. Target Market

- NGOs & international development organizations
- Governments & smart-city initiatives
- Climate-tech, agro-tech, and health-tech startups
- Enterprises deploying AI at the edge

Primary focus: emerging markets and infrastructure-limited environments.

9. Competitive Advantage

Conventional AI	NewraLab
Transformer-heavy	State-space & dynamical models
High compute cost	Low-compute, edge-ready
Cloud-only	Cloud + edge
Data-hungry	Data-efficient

10. NVIDIA Technology Usage

We currently use and plan to scale with:

- NVIDIA GPUs for model training and foundation distillation
- CUDA & accelerated libraries for efficient experimentation
- TensorRT and edge SDKs for optimized inference
- Future integration with Jetson and NVIDIA AI Enterprise for deployment

NVIDIA is central to our training–distillation–deployment pipeline.

11. Business Model

- Open-source core models to drive adoption
- Enterprise licensing and customization
- Research partnerships and applied AI pilots
- Grants and ecosystem collaborations

12. Traction

- Bootstrapped, privately held (no external funding)
- Peer-reviewed research validation
- Active open-source development
- Early interest from academic and applied AI partners

13. Team

- **Yunusa Haruna, PhD:** Founder & Lead Researcher (Expert in computer vision, multimodal, and efficient AI systems)
- **Adamu Lawan**: Researcher & Developer (NLP)
- **Amir Hashim:** Business Lead

14. Roadmap

Short-term:

- Expand Gamba-Vision Suite
- Optimized benchmarking

Mid-term:

- Multimodal foundation distillation at scale
- Edge pilots

Long-term:

- Become a reference platform for low-resource AI deployment globally

15. Closing

NewraLab builds AI that works where others fail.