Ahuerma Labs

Bio■Inspired Neuromorphic Modules for Next■Generation AI

Mission: Build biologically grounded neural modules—functional microcircuits inspired by real brain architecture—to enhance AI systems with memory, learning, stability, and cognition. **Core Technology**: The CA3→CA1 Hippocampal Memory Module • 200■neuron functional microcircuit • Recurrent CA3 network + feedforward CA1 projection • STDP■based plasticity • Pattern encoding, storage, and recall • Robust retrieval from noisy cues • Designed for seamless integration into AI systems **Use Cases**: • Long■term memory backend for AI agents • Cognitive navigation and spatial reasoning • Robotics memory and decision■making • Neuromorphic hardware benchmarking • Computational neuroscience research • Hybrid LLM + brain■module architectures **Why It Matters**: Modern AI lacks biological memory mechanisms. Ahuerma Labs bridges machine intelligence and neuroscience, creating modules that mimic real neural computation and can be embedded into agents, robotics systems, and LLM■driven architectures. **Integrations**: • Python APIs • Agent frameworks • Robotics stacks • Custom neuromorphic simulators • LLM toolchains **Status**: CA3/CA1 MVP complete — simulation, plasticity, demos, visualization, and modular architecture ready for research and integration. **Contact**: Fideloub@gmail.com