Agentic Bot Systems: Multi-Agent, Multi-Tool Voice & Video

NeuroFlo

Flexible, Configurable AI Agents

- Prompt-based bot creation system that configures AI agents for specialized healthcare tasks using iterative, parallel, and congruent processing modes

- Voice capabilities: Real-time surgical checklists verification, transcription with contextual understanding, and dynamic query processing at 98% accuracy

- Video inference: IoT camera feeds with YOLO object detection + LLM contextualization for anomaly detection and risk assessment at 8-10 fps

- Collaborative multi-agents use RAG for healthcare protocols, iteratively refine outputs, and trigger automated actions (alerts, EHR updates, coding suggestions)

Clinical Impact:
- 15% error reduction
- Real-time OR alerts
- 85% inference accuracy
- Enhanced op-note accuracy

Multi-Agent Processing Pipeline

Voice Input
Real-time audio transcription + medical context

Video Processing
YOLO object detection + anomaly recognition

Multi-Agent Inference
Parallel processing by specialized agents

Iterative Refinement
RAG + healthcare protocols for accuracy

Automated Actions
Alerts, EHR updates, coding suggestions

Surgical Checklists
Voice-driven verification with video confirmation reducing errors by 15%

Auto-Documentation
Voice dictation with automated op-note generation and coding suggestions