Nilson Neuschotz

Applied AI Systems Developer | Multimodal & Conversational AI
New York, NY | 917-414-8689 | nilson.neuschotz@gmail.com
GitHub: github.com/Nilly-Nil | Portfolio: github.com/Nilly-Nil/AI-Project-Portfolio

Professional Summary

Applied AI systems developer with a background in computer science, mathematics, and intelligent systems. Recent work focuses on real-time conversational AI, multimodal interaction, persistent context, and production-ready system design. Delivered a commercial AI personal assistant prototype for consumer retail deployment and developed independent AI frameworks addressing context continuity, reasoning structure, and decision support.

Experience

AI Systems Developer (Contract) — Personal Assistant Project
Designed and delivered a production-grade multimodal AI personal assistant prototype for a commercial client. Built end-to-end architecture integrating real-time speech recognition, conversational state management, avatar-based audiovisual interaction, and Windows executable deployment.

- Implemented low-latency streaming speech-to-text and audio device handling
- Designed conversational state, scene control, and gating logic
- Integrated avatar playback, TTS, and WebRTC streaming
- Built cross-platform diagnostics and logging for audio and latency issues
- Packaged and delivered a standalone Windows executable for client testing

Independent AI Developer — CooperTheta & Context Avatar
Developed independent AI systems exploring structured reasoning, decision support, and persistent context in conversational agents. Projects include CooperTheta, an AI-driven cryptocurrency analysis and decision-support system, and Context Avatar, a framework for identity continuity and long-lived avatar-based interaction.

- Designed modular reasoning and context architectures
- Built stateful conversation and memory models
- Developed client-facing analytical workflows and interfaces
- Transitioned private systems toward public-facing documentation and demos

Education

Columbia University — Computer Science & Mathematics
Track: Intelligent Systems

Technical Skills

Programming Languages: Python (primary; production async systems), C++ (systems-level components, performance-sensitive logic), JavaScript (frontend integration, WebRTC coordination), Java (foundational, academic and project use)
AI & Systems: LLM orchestration, prompt engineering, conversational state machines, context modeling
Audio / Video: Real-time audio pipelines, WebRTC, speech-to-text, text-to-speech, avatar synchronization
Infrastructure: Async I/O, WebSockets, cross-platform debugging, Windows executable packaging
Tools: Git, PyCharm, CLion, REST APIs, diagnostic logging