Why is it a bad idea to create your own custom LLM or other GenAI model?

Building a custom LLM or GenAI model from scratch is a costly and complex endeavor. It requires vast amounts of data, computational power, and expertise in machine learning and NLP. Additionally, maintaining and fine-tuning such a model is an ongoing effort that demands specialized talent. Even large tech companies struggle with the high costs and time investment involved. Instead of reinventing the wheel, businesses can leverage existing models integrated with platforms like SignalWire, which offer lower latency, high efficiency, and seamless telecom integration.

How does SignalWire AI help developers get around these problems?

SignalWire AI is not just a pre-built solution but a complete IVR framework with an embedded AI kernel. This allows developers to define any AI interaction as prompts and webhooks, making it far more flexible and powerful than other market offerings. Instead of requiring developers to train and maintain AI models, SignalWire provides a framework for fully programmable AI-driven communication. With SWML (SignalWire Markup Language), developers can create dynamic, interactive call flows that leverage AI for real-time speech processing, decision-making, and seamless API integration. This eliminates the need to build AI-driven telecom solutions from scratch while maintaining full control and customization.

Why is it hard to add AI to phone calls and telecom systems?

AI-powered voice interactions require ultra-low latency to maintain natural conversation flow. Traditional telecom systems introduce delays due to signal routing, audio processing, and external API integrations. Most other AI telecom solutions rely on multiple third-party providers, each adding processing overhead. Media is often transported across internet sockets in heavy formats, further exacerbating latency issues. On top of this, PSTN and mobile phone networks introduce inherent latency beyond anyone's control. Each additional processing hop, whether for transcription, AI inference, or call routing, adds delay, forcing competitors to pull media away from the media stack only to return it with significant latency. SignalWire eliminates these inefficiencies by embedding AI directly within its telecom infrastructure, keeping media processing local and reducing round-trip delays to ~500ms.

Why is AI being integrated into the telecom stack a big deal? What problems do telecom networks create that make AI struggle?

Integrating AI into the telecom stack eliminates common issues like high latency, signal degradation, and difficulty in synchronizing real-time speech analysis. Traditional telecom networks were not designed for AI-driven interactions, leading to inefficiencies when integrating AI post-facto. SignalWire's native AI integration solves these problems by handling voice, video, and messaging directly within the same infrastructure, optimizing for real-time performance.

Unlike other solutions that require media to be offloaded to external processing centers, introducing significant round-trip delays, SignalWire's AI kernel is embedded directly in the

media stack. This allows input handling, AI processing, and LLM access to work in unison, ensuring that media never has to leave the system. By eliminating these extra hops, SignalWire significantly reduces latency, preventing the unnatural pauses and lag that typically plague AI-powered voice interactions. The result is a seamless, real-time conversation experience that feels natural and responsive.

Why is it such a big deal that SignalWire AI works across PSTN, WebRTC, SIP? How does SignalWire's AI adjust to different types of calls without breaking?

Telecom networks use different protocols, each with unique constraints. PSTN calls have inherent latency, SIP calls involve complex routing, and WebRTC is optimized for real-time interactions. SignalWire AI seamlessly adapts to each of these environments by operating directly within the SignalWire media stack, ensuring consistent performance across all communication types.

Beyond just AI, the SignalWire platform allows businesses to build rich media applications once and deploy them across PSTN, WebRTC, and SIP without needing to implement different versions for each protocol. This is essential for UCaaS, CCaaS, and AI applications, as it enables customers and agents to access the same features across all networks seamlessly. By eliminating the need for multiple implementations and expensive adapters in the middle of the call flow, SignalWire reduces both infrastructure costs and latency, ensuring a smoother, faster, and more efficient communication experience.

Why would someone use SignalWire AI over other competitors like Bland, Sierra, or even Twilio? How is SignalWire's AI built differently from others?

SignalWire AI is designed from the ground up for ultra-low latency, real-time telecom applications. Unlike competitors that rely on third-party CPaaS for media handling, SignalWire integrates AI directly into the media stack, eliminating unnecessary processing layers. This results in faster response times, better scalability, and a more seamless AI-driven conversation experience.

SignalWire is built on the foundation of FreeSWITCH, which has been a leader in scalable telecom infrastructure for years. On top of this foundation, SignalWire has added enhanced media capabilities, allowing for immediate scalability instead of the challenges that new companies face when trying to scale on third-party CPaaS providers. This reliance on CPaaS by other competitors not only increases their latency, as previously discussed, but also limits their ability to provide the deep media integrations that SignalWire offers.

Additionally, SignalWire AI delivers the fastest response times in its class for voice AI, ensuring a near-instant interaction experience. Its framework is also the most robust for building AI tools that can control middleware, execute native media stack operations like call transfers and digit dialing, and securely perform PCI-compliant number collections. With these capabilities, SignalWire is not just another AI telecom provider, it is a fully programmable and scalable AI-driven communications platform.

How would you describe SignalWire's AI security measures? What encryption standards or compliance measures are in place?

SignalWire AI adheres to strict security protocols, including end-to-end encryption and metadata tokenization. Compliance measures include GDPR, HIPAA, PCI, and SOC 2 Type 2 certifications, ensuring that sensitive customer data remains secure. Access controls and logging features help businesses maintain compliance with enterprise security requirements.

A unique security feature of SignalWire AI is its ability to invoke media stack functions to transition into a secure IVR within an AI conversation. This means that during sensitive interactions, such as collecting payment information or personal identification, the AI can seamlessly hand off to a secure IVR flow where critical data is collected without ever being exposed to the AI or the broader system. This ensures that sensitive information remains protected and prevents unnecessary AI exposure to private user data, maintaining strict compliance with security regulations while providing a seamless customer experience.