ENTERTAINMENT & MEDIA

Microtron AI.

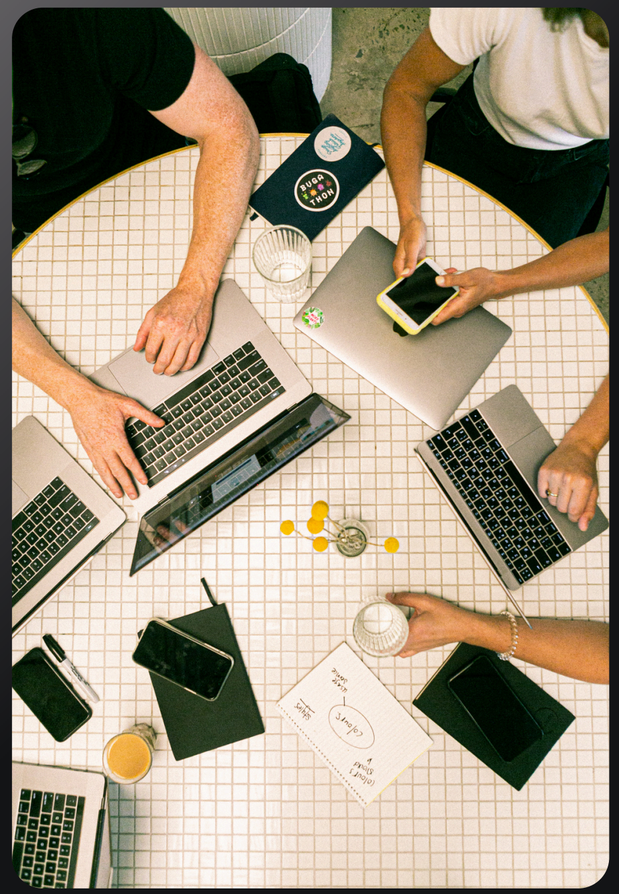
Get ready to experience the future of technology with Microtron Corporation! We are the leading pioneers in Artificial Intelligence (AGI) and wearable (IoT) solutions for our clients. Our team is passionate about harnessing the power of AI to revolutionize industries and empower businesses with the latest technology. Join us on this exciting journey towards innovation and success!

www.microtronai.com

About us

Microtron Corporation is a leader in Artificial Intelligence (AI), specializing in Autonomous Systems and Machine Learning (ML) solutions. We offer expert consulting in Data Analytics, Internet of Things (IoT), and Natural Language Processing (NLP), tailored to meet specifications and ensure compliance with all related requirements.

Our extensive expertise spans media, entertainment, and beyond, where we provide advanced concept design and technology development. By collaborating closely with industry partners, we drive innovation and enhance operational efficiency.



Our Team

Bisa Peterson
CEO

Kyndall Fry
Director of Entertainment/Media
Sr. Data Scientist

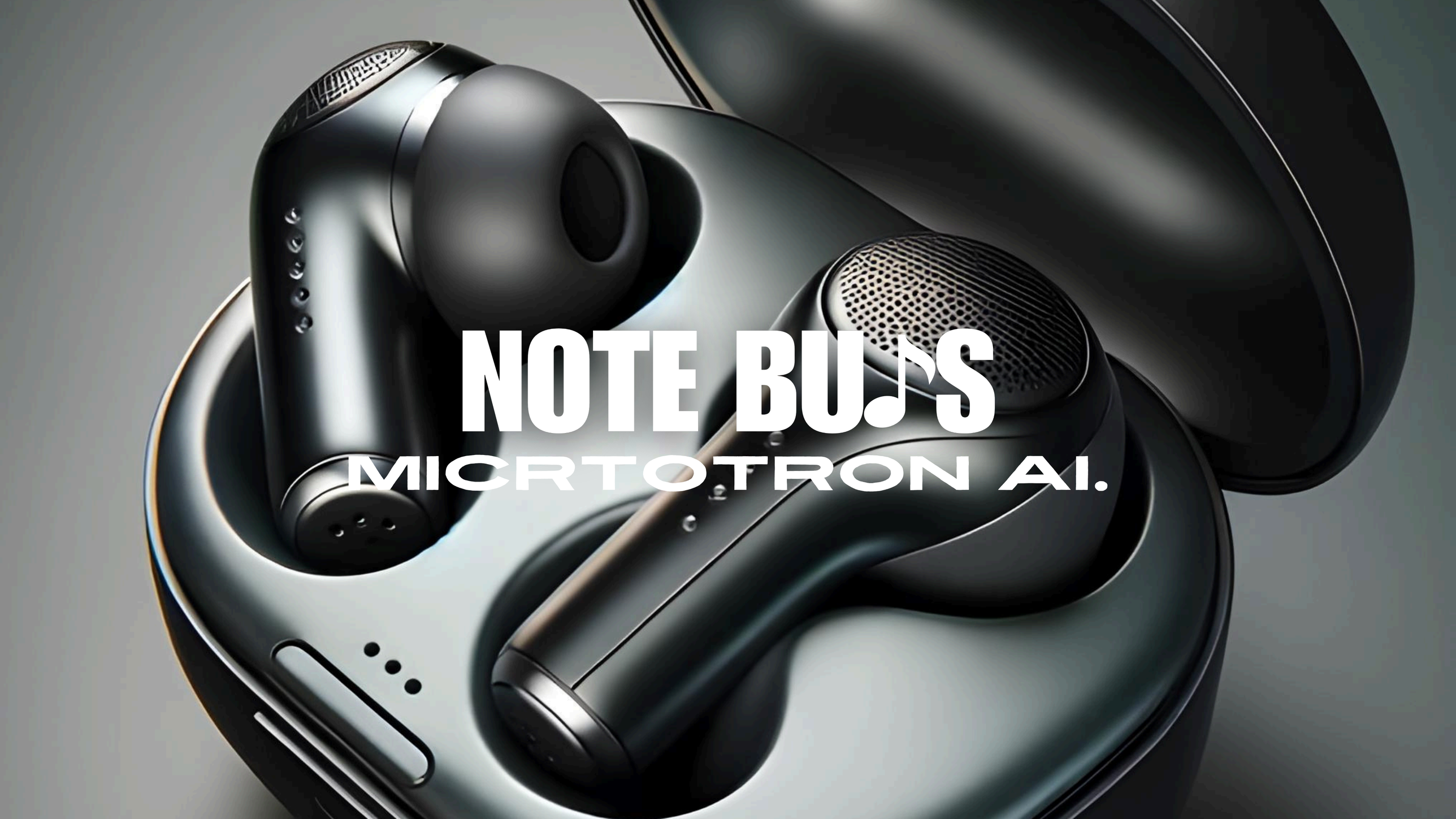
Parker Bidigare
CTO

Dr. Rastafas Geddes
Chief Medical Officer

Our Goals

Microtron is a company that aims to increase innovation potential in businesses by enabling them to design and validate new business models, products, and services in a structured repeatable, and scalable way. Our AI platform synthesizes the most pertinent information to guide decision making, and we derive our technology from natural structures to meet our customers' needs. We and develop A.I. empowered solutions and IoT enabled products for the smart connected world, serving clients in various verticals including physicians/hospitals and smart cities.

At Microtron, we are committed to facilitating a strong footprint in the market by moving advanced concepts from ideas through R&D to prototype and technical application to end market production and sales. We are fully integrating into the Federal R&D system and are further establishing ourselves within the academic and private sector. Our ultimate goal is to contribute to the overall growth of Artificial Intelligence in the United States and abroad.


NOTE BUDS
MICRTOTRON AI.

01 Frequency Blocking

Our advanced frequency blocking technology is designed to protect your auditory health while enhancing your listening experience. By intelligently identifying and filtering out harmful sound frequencies typically above 85 dB, NoteBuds ensure that you can enjoy your favorite music, podcasts, concerts, or ambient sounds without the risk of hearing damage. This state-of-the-art feature not only preserves the integrity of desired audio but also creates a soothing auditory environment that promotes mental clarity and reduces stress. Experience the peace of mind that comes with knowing your ears are safeguarded against detrimental sounds.

02 AI Tech Filtering

Harnessing the power of cutting-edge artificial intelligence, NoteBuds is equipped with advanced speech recognition technology that actively identifies and filters out negative speech, harmful language, and detrimental words in real time. Whether it's profanity, overly critical commentary, or negative affirmations, our AI system ensures your auditory environment remains uplifting and supportive.

Additionally, users can personalize their experience by adjusting the level of filtering through intuitive settings. This feature allows you to select the intensity of the filtering based on your environment and preferences, whether you want to block out specific words or phrases or maintain a light filtering that only mutes the most severe negativity. With the ability to fine-tune these settings, you can create a tailored auditory experience that enhances your focus, motivation, and overall mental well-being, allowing you to engage fully with the positive sounds and messages that matter most to you.

03 Comfort & Fit

Designed with the user’s comfort in mind, NoteBuds features an ergonomic design that ensures a snug yet gentle fit for hours of wear. The lightweight materials and adjustable components provide a tailored experience, accommodating various ear shapes and sizes. Soft padding around the ear cups reduces pressure, allowing you to lose yourself in your favorite audio without discomfort. Whether you are working, exercising, or relaxing, our headset promises to make every moment enjoyable, providing both an immersive sound experience and unmatched comfort.

Key Components and Considerations

Signal Processing Module

- **Active Noise Control (ANC) System**

Utilize adaptive filtering techniques and advanced noise-canceling algorithms to block harmful frequencies. The ANC system will focus on frequencies that are harmful to the human ear, typically those above 85 dB in the 3 kHz - 6 kHz range.

- **Real-Time Digital Signal Processing (DSP) Chip**

Incorporate a high-speed DSP chip capable of real-time frequency analysis and selective attenuation. This chip will process the audio signal, identify harmful frequencies using machine learning models, and apply appropriate filters (such as high-pass or notch filters) to reduce them.

- **User Customization Interface**

Integrate with a mobile app (iOS and Android) or on-device controls, allowing users to set preferences for frequency attenuation levels and tailor their audio experience.

Material and Acoustic Chamber Design

Memory Foam Tips with Variable Density

Use tips made from memory foam with varying densities to offer both comfort and passive noise isolation. The foam can adapt to the ear canal shape, providing a snug fit and enhancing passive noise reduction, thereby complementing the ANC system.

Inner Acoustic Chamber

Design an acoustic chamber within the earbud that includes multi-layer resonant absorbers. These layers would selectively dampen and attenuate specific frequencies, preventing harmful waves from reaching the eardrum.

Microphone Array and Feedback System

External and Internal Microphones:

Employ a combination of external microphones to detect incoming environmental sounds and internal microphones to monitor sound directly in the ear canal. This arrangement allows for real-time analysis and fine-tuning of noise-canceling algorithms.

Feedback Loop System:

Integrate a feedback loop system that uses input from the internal microphones to continuously optimize the performance of the ANC system, ensuring the harmful frequencies are consistently minimized.

Power and Connectivity Components

Efficient Power Management System:

Utilize a low-power Bluetooth module with an advanced power management unit (PMU) to extend battery life. Include a compact, high-capacity lithium-polymer battery that supports fast charging.

Wireless Charging and Connectivity:

Ensure the earbuds support wireless charging (Qi standard) and Bluetooth 5.2 or higher for efficient, high-quality, and low-latency audio streaming.

Advanced Features

Health Monitoring Sensors

Incorporate sensors that monitor the volume levels and exposure duration to ensure that the earbud complies with safe listening practices

AI-Driven Sound Profile Personalization

Leverage machine learning algorithms to personalize sound profiles based on user preferences and historical listening patterns.

Rendering Considerations

3D Model Design

Create a high-fidelity 3D model of the earbuds, showing internal components such as the DSP chip, acoustic chamber, microphone arrays, and battery layout. Use CAD software like SolidWorks or Autodesk Fusion 360 for precise modeling.

Material Textures and Finishes

Render different textures for components like matte black or glossy white finishes for the earbud casing, and a soft, skin-friendly silicone or memory foam material for the ear tips.

Exploded View Render

Provide an exploded view that shows the arrangement of all internal components, highlighting the multi-layer acoustic chamber, DSP module, and power management system.

Prototyping and Testing

Iterative Design Improvement:

Based on simulation and user feedback, refine the earbud design to balance frequency blocking efficiency, audio quality, and user experience.

Simulation and Testing:

Conduct simulations in virtual environments to optimize acoustic performance and ANC efficiency. Subsequently, create physical prototypes for lab testing, focusing on real-world acoustic performance and user comfort.

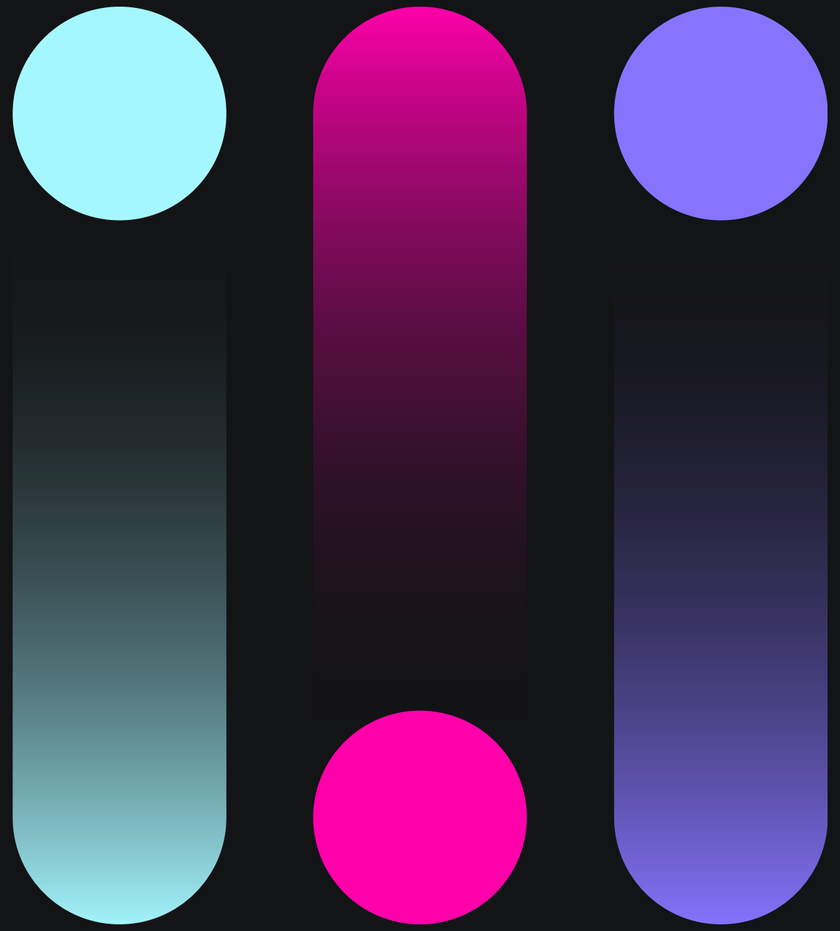
Product Safety and Compliance

Regulatory Compliance

Ensure the earbuds comply with safety and health regulations, such as CE, FCC, RoHS, and IEC standards for safe listening devices

Verse Technology

Microtron sets itself apart with Verse, an innovative operating system that seamlessly adapts to cloud, on-premises, and hybrid environments, ensuring multi-environment compatibility. Enhanced by advanced AI integration, Verse predicts user needs to facilitate faster decision-making. With built-in support for Hyper Reality and Mixed Reality, along with IoT connectivity, it offers an immersive and connected experience. The robust blockchain security framework and Zero Trust architecture prioritize data integrity and security at every layer. Verse's modular design provides flexibility and scalability, while its advanced integrated development environment empowers developers to create and deploy applications effortlessly. Features like autonomous resource management, real-time collaboration tools, and energy-efficient computing demonstrate Microtron's commitment to innovation, efficiency, and sustainability, positioning it as a leader in the technology landscape.



Enhancing NoteBuds with Verse Technology

Microtron's Verse technology can significantly improve the Notebuds by integrating advanced features that enhance user experience and address core design goals. With AI integration, Notebuds can intelligently analyze audio data to block harmful frequencies above 85 dB, ensuring optimal hearing protection without compromising sound quality. The modular architecture allows users to customize their frequency-blocking settings based on personal preferences and environments.

Verse’s IoT connectivity enables Notebuds to sync with other smart devices for real-time adjustments according to surrounding noise levels. Additionally, enhanced data visualization provides insights into listening habits, empowering users to make informed audio choices. With a focus on energy efficiency, Verse ensures high performance while minimizing environmental impact. Together, these features position Notebuds as an innovative solution in hearing protection, offering exceptional functionality and adaptability for users.

Key Issues Nullified and Prevented by NoteBuds

Harmful Effects of High DB on the Brain

Hearing Damage

Exposure to sounds above 85 dB can lead to noise-induced hearing loss. Loud music can damage the hair cells in the cochlea (part of the inner ear) that are crucial for hearing. Once these hair cells are damaged, they do not regenerate, leading to permanent hearing loss.

Tinnitus

Prolonged exposure to loud music can also lead to tinnitus, a condition characterized by ringing, buzzing, or hissing sounds in the ears that can be bothersome and lead to stress and anxiety.

Sleep Disturbances

High volume levels can lead to difficulty sleeping. Quality sleep is vital for brain health, and poor sleep can lead to a range of cognitive issues, including difficulties with memory and mood regulation.

Increased Blood Pressure

Exposure to high dB levels has been linked to increased blood pressure, which can have long-term effects on brain health and cardiovascular well-being.

Bad Speach Effects on the Brain

Given the current mental health landscape, it's essential to be mindful of the media we consume. Music can be a powerful tool for emotional expression and connection, but when it contains excessive negativity, it can potentially worsen feelings of depression and anxiety. Creating a supportive auditory environment can serve as a proactive step towards fostering mental resilience and improving overall emotional health.

1

Aggressive behavior

Research suggests that violent music lyrics can increase anger, aggression, and negative emotions, and decrease positive emotions.

2

Desensitization

Long-term exposure to violent music may desensitize listeners to violence.

3

Autonomic nervous system

The valence of music, or whether it feels positive or negative, can influence the autonomic nervous system, which controls involuntary processes like breathing and heart rate.

Keith Urban

Keith Urban is an Australian country music singer, songwriter, and guitarist known for his dynamic performances and blending of country, rock, and pop influences. Born on October 26, 1967, in Whangarei, New Zealand, he moved to Australia as a child and began his music career there before moving to Nashville. Urban has received numerous accolades, including four Grammy Awards, multiple Country Music Association (CMA) Awards, and American Music Awards. He is renowned for hits like "Somebody Like You," "Blue Ain't Your Color," and "Never Coming Down."

Beyond his musical achievements, Urban is known for his philanthropy and positive influence. He supports various charities, including the St. Jude Children's Research Hospital and initiatives focused on mental health. His genuine demeanor and commitment to uplifting others make him not only a talented artist but also a beloved figure in the music industry.

I think there's just so many people in the world that don't feel understood, and when you hear a song and you go, 'Oh, that song understands me,' that's an amazing feeling. I get it when I listen to the radio... That's a beautiful part of music.

-Keith Urban

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Thank You

MicrotronAI.