Level 1 Music Technology Software Developer - Independent Contractor:

Job Overview: Outlier Technology, LLC is seeking a music technology software engineer to assist in the development of a data-driven, computer vision (**CV**), machine learning, and music-based augmented reality neurorehabilitation platform for Alzheimer's disease (**AD**) patients. The ideal candidate will have deep fluency in computer music, generative music composition, Python 3, object-oriented programming **(OOP)**, and Github. Moderate to extensive experience designing interactive graphical user interfaces **(GUIs),** and integrating CV, machine learning, and/or AI techniques into computer music is also desired. A proven track record of strong logic skills, building sophisticated, efficient, creative or artistically engaging software systems, and developing solutions to complex technical problems is also desired. The contract work will be 2 man-months, which can be distributed as part time work over 2 - 4 months. The role will focus on development of an augmented reality therapeutic intervention for AD patients, collaborative work with CV and music technology design experts to engineer a motion-mediated generative music engine, writing efficient and testable code, building responsive user interfaces, and optimizing existing components. The position is fully remote, with regular Zoom meetings and collaboration with a highly interdisciplinary team. While U.S. citizenship is not a requirement, all remote work must be performed within the U.S. Compensation will be based on skills and experience. Target start date is **on or before Jan. 1, 2026**.

Position responsibilities:
- Build an interactive and user-friendly music-based neurorehabilitation intervention from design specifications
- Architect and implement advanced computer music software features from design specifications
- Integrate CV, machine learning, and AI modules into the music software framework
- Write clean, modular, and highly efficient code with an emphasis on scalability and maintainability
- Manage code with detailed documentation and version control via GitHub
- Develop and refine intuitive, engaging, and responsive graphical user interfaces
- Work in an agile environment to release software units at periodic schedules
- Write robust unit tests and perform debugging and optimization
- Collaborate with designers, researchers, and other developers to define software requirements
- Participate in Zoom meetings to provide software updates and/or discuss production issues

Job Qualifications and Skill Sets:
- PhD (or equivalent expertise) in computer music, music technology, computer science, or related field
- Expertise in Python 3 and Max/MSP with command of at least one compiled language (e.g., C++, Java, or C#)
- Expertise in data structures, algorithms, OOP principles, and software architecture
- Experience developing interactive, real-time audio/music applications and manipulating audio and MIDI
- Familiar with scripting languages (e.g., JavaScript, Ruby, or PHP)
- Experience with real-time generative music systems or data-driven music synthesis/manipulation
- Strong proficiency with frameworks such as OpenCV, MediaPipe, OpenPose, TensorFlow, or PyTorch
- Skilled in GUI/UX design for creative applications
- Proficient in working across multiple platforms (Windows, Mac, Linux) and command-line interface
- Proficiency in Git/GitHub, including version control best practices and collaborative code management
- Experience with cloud services (AWS, Google Cloud, or Azure) and build tools (e.g., Gradle, Maven)
- Strong problem-solving, communication, and people skills, with a positive mindset for collaborative R&D
- Strong time management skills and ability to deliver results in interdisciplinary, research-driven environments

Preferred Qualifications:
- Knowledge of computational approaches to music composition, feature extraction, and information retrieval
- 1-3 years of industry experience developing commercial, interactive audio/visual or generative music systems
- Background in music performance, theory, composition, or alternative form of creative musical expression

Outlier Technology, LLC is an early-stage neuroscience innovation start-up and the recent recipient of Phase I & 2 SBIR funding from the National Institute of Aging and the 2023 & 2024 Catalyst Award from the National Academy of Medicine. Our current work explores the use of personalized, AI-driven music tools to improve cognitive and emotional health in individuals with neurological conditions such as Alzheimer's disease. For more information on current opportunity postings visit https://outliertechnology.com/open-roles or email info@outliertechnology.com.

🤔 **a)** What is the first consecutive sequence in pi that is divisible by both 3 and 37? **b)** Where in pi is that sequence located? If the solution to part **a)** is ##### and this solution starts at **b)** pi's ******th decimal place, visit a#####b******.com (*e.g. if the solution is 7189, starting at the 8359th decimal place, visit a7189b8359.com*) 😉