



MAKİNE ÖĞRENİMİ, EVRİŞİMLİ SİNİR AĞLARI VE ANESTEZİ

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GİRİŞ

Yapay zeka (AI) günümüzde gazetelerden siyasi tartışmalara ve tıbbi makalelere kadar her yerde geçen bir terim haline gelmiştir. Tam tanımı hakkında net bir anlayış eksikliği olmasına rağmen yapay zeka, makinelere problem çözme, nesne ve kelime tanıma, dünya durumlarının çıkarımı ve karar verme gibi işlevleri yerine getirme ve akıl yürütme yeteneği veren algoritmaların çalışması olarak tanımlanmıştır (1).

İnsan zihni, fiziksel dünyadaki nesnelerin hareketini ve etkileşimini tahmin etmede, sınırlı sayıda örnekten neden ve sonuç çıkarmada ve daha önce karşılaşılmamış durumları kapsayacak eylem planlarını belirlemek için bu örnekleri tahmin etmede üstündür. Bu akıl yürütme yeteneği, olayları bilinçaltında uygun olan ve olmayan deneyimlere ayıran olağanüstü bir hafıza tarafından desteklenir ve aynı zamanda önemli fiziksel hasar karşısında bile bu hatıraları sürdürme yeteneğine sahiptir. İlişkisel belleğin doğası, geçmiş deneyimlerin mevcut durumla en ilgili yönlerinin bilinçli düşünceye neredeyse zahmetsizce geri çağrılabilmesi anlamına gelir. İnsan zekası, bir bireyin araba kullanmasını, birden fazla dilde konuşmasını, karmaşık manuel manipülasyonları (ameliyat yapmak gibi) gerçekleştirmesini ve muhtemelen aynı gün içinde uzun vadeli planlar yapmasını sağlar. İnsanlar bu çeşitli görevleri, bilinçlerinin aynı, üniter zekasını kullanarak gerçekleştirirler. Bununla birlikte, bu olağanüstü beyin yeteneklerine karşı, yorgunluk, zihinsel çalışmayı kısaltma eğilimi olarak ortaya çıkan bilişsel

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Anestezistler, teknolojinin klinik olarak uygulanabilir olmasını, algoritmaları eğtmek için kullanılan verilerin geçerli ve geniş bir hasta popülasyonunu temsil etmesini, bu verilerin yorumlarının klinik olarak anlamlı olmasını sağlamak için veri bilimcileri ve mühendisleriyle ortak olmaya devam etmelidir(62). Modellere göre verilerin entegrasyonu ve analizi, modellerin bu verilerin belirli hastalar için etkilerini anladığı anlamına gelmez. Bu nedenle, anestezistler, yapay zekanın optimal kullanımı için stratejinin geliştirilmesine yardımcı olmak için diğer disiplinler (örneğin cerrahlar, müdahaleciler, yoğun bakım profesyonelleri, hemşireler) ve hastalarla işbirliği yapmalıdır. Bir alan olarak anesteziyoloji, hasta güvenliği girişimlerinin uygulanmasında ve başarılmasında lider olmuştur ve yapay zeka, güvenli anestezi bakımının sağlanmasında yenilikleri sürdürmek için yeni bir araç olarak hizmet edebilir.

Anesteziyoloji alanı, yapay zekanın yönlerini içeren uzun bir araştırma geçmişine sahiptir. Yapay zeka, anestezinin klinik uygulamasını perioperatif destekten kritik bakım sunumuna ve ayakta tedavi ağrı yönetimine kadar değişen yönlerden etkileme potansiyeline sahiptir. Araştırma çabaları ilerledikçe ve teknoloji geliştikçe, klinisyenlerin yapay zekanın klinik çevirisine yardımcı olmak için uygulamaya dayalı bilgiler sağlamaları çok önemli olacaktır.

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