



Building faster and safer medical AI with Intel

In the ongoing quest to improve patient outcomes and lower costs, health care organizations (HCOs) are turning to AI technologies to create bold innovations with unlimited potential.

But before these AI innovations can be put into practice, developers can first create and validate models capable of consistent performance. Doing so requires a vast pool of diverse data — including electronic health records, medical devices and academic research.

In the past, validating just one AI model would prove time-consuming and costly for HCOs, possibly taking upward of five years and costing as much as \$5 million.¹ Confidential computing platforms (CCPs) with memory encryption and privacy-preserving analytics support HCOs in overcoming many of the data protection hurdles.

One of the most exciting CCP innovations is [BeeKeeper AI](#). Beekeeper AI employs Intel® Software Guard Extensions (Intel® SGX) to use AI to benefit a variety of health care causes, all while helping to keep the data secure.

Intel Xeon Scalable processors with Intel® SGX give BeeKeeper AI the compute power to handle these large data AI/analytic workloads and innovate new medical AI solutions.

	HCO AI approval process without BeeKeeper AI	HCO AI approval process with BeeKeeper AI
 <p>Time to AI approval</p>	2–5 ² years	3–4 ³ months
 <p>Cost</p>	Approximately \$4M ⁴	Approximately \$2M ⁵
 <p>Data security</p>	Adding various AI datasets can cause many security concerns, which is of utmost importance to HCOs.	BeeKeeper AI equipped with Intel's SGX and 3rd Gen Xeon processors provides the highest standard for security while enabling AI to thrive and do its job.
 <p>Impact</p>	Long approval processes lead to patients not getting the timely care that they need, especially for rare diseases.	Enabling the power of AI in healthcare creates faster diagnoses, personalized treatments and disease predictions.
 <p>Collaboration</p>	Lack of an agreed-upon set of standards for securing and managing data inhibits collaboration.	Collaboration is enabled by using trusted and secure enclaves where only approved software and data can be used.

¹ "Privacy-Preserving Data-Collaboration Methods that Accelerate Healthcare Innovation," white paper, Intel Health and Life Sciences. <https://www.intel.com/content/dam/www/central-libraries/us/en/documents/confidential-computing-platforms-white-paper.pdf>
²⁻⁵ Ibid.