Hardware for artificial intelligence is a subject of contemporary significance. This field of research is very active and growing rapidly. Much of the work in this field attempts to elucidate how a single device can be used to perform a specific function relevant to artificial neural networks or neuromorphic computing. Yet approaching such a complex problem in this piecemeal manner has not been successful in enabling full-system concepts. In this perspective article, I summarize the last five years of work in our group at NIST in which we have tried to envision full neuromorphic systems capable of general intelligence. This work has considered device, circuit, and network aspects of the problem. The result is a concept for hardware for artificial intelligence that appears scalable from the perspectives of power consumption, communication, size, fabrication, manufacturing, and even design. The concept combines the strengths of photonics for communication with electronics for computation, employing optical, superconducting, and semiconducting devices. Due to the fascinating implications of scalable hardware for AI and the diversity of applied physics employed in the concept, this article is likely to be of interest to much of the readership of APL.