

## Citation (for the award of DEng Honoris Causa) – Ben Shneiderman

Ben Shneiderman's work has had an immense impact in research and commercial applications. He was a key founder of the disciplines of human-computer interaction and information visualization, developing central ideas and bringing together other leaders to form successful communities. His visionary leadership and capacity to bring people together triggered academic conferences, journals, and departments, while his close relationship with key companies help propagate his research results that contributed to the World-Wide Web and widely used touchscreen strategies on mobile devices. Later in his career he designed influential visualization systems that have reshaped expectations about how to explore and present data in business, medical care, and public policy.

Ben Shneiderman was elected to the prestigious U. S. National Academy of Engineering in recognition of his pioneering contributions to human-computer interaction and information visualization. He is also a Fellow of the American Association for the Advancement of Science (AAAS), a Fellow of the Institute for Electrical and Electronic Engineers (IEEE), a Fellow of the Association for Computing (ACM), and the National Academy of Inventors (NAI).

Ben Shneiderman is a Distinguished University Professor at the University of Maryland's Department of Computer Science and the University of Maryland Institute for Advanced Computer Studies (UMIACS). He is an outstanding and engaging speaker, who is sought after to deliver public lectures as well as scientific keynote addresses. Prof Shneiderman's is an excellent writer as well. His books *Designing the User Interface*, now in 6th Edition (2016), and *Leonardo's Laptop* (2003) have earned numerous awards and been translated into eight languages.

Prof Shneiderman's research on information visualization enables exploration of complex data that describe key phenomena, with application to businesses, social networks, and electronic health records to name but a few. He led research teams that developed the ideas for widely used and commercially successful visualization tools such as Spotfire.

He is a key proponent of open source successes with treemaps for hierarchical data and the NodeXL tools for visualizing and analyzing network data.

Prof Shneiderman was instrumental in developing the selectable link of the World Wide Web and the small touchscreen keyboards that are so prevalent in smartphones and other devices. His research and advocacy for universal usability have been important in helping to ensure information is accessible by diverse users.

Prof Shneiderman ideas have a significant impact on the University of Melbourne's academic curricula and strategic direction. Prof Ben Shneiderman's books are key references in Human-Computer Interaction and in Computing at large.

Prof Shneiderman's latest ambitious effort is to transform academic research so that it has greater societal impact. His book *The New ABCs of Research: Achieving Breakthrough Collaborations* (2016) lays out a visionary plan for achieving the twin-win of excellence in basic & applied research that also produces practical solutions that are disseminated widely. This book has been critical in providing the foundational framework for the MSE2025 strategy. In the book, he explains how team collaboration can lead to research breakthroughs that bring highly cited papers with validated theories and tested solutions that can be disseminated at scale. Shneiderman's strategies are designed to address key problems of our time such as healthcare delivery, energy sustainability, community safety, cybersecurity, and environmental preservation.