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B.S. in Engineering Science (Physics Major), 1937, Carnegie Institute of Technology. Graduate work at University of Rochester in 1937 and 1938. Worked with Bausch and Lomb Optical Company from 1937-51 where his experience included management of both production and development activities and appointment as Research Assistant Fellow from the company to the Mellon Institute. Joined IBM in 1951 with Military Products Division at Vestal, N. Y. and since 1960 has worked in photo-optics technology for the development of image storage and retrieval systems at San Jose. Received an IBM Outstanding Invention Award in 1965. Member, Society of Photographic Scientists and Engineers and National Microfilm Society.

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