# Principal Component Analysis with Missing Data and Its Application to Object Modeling

Heung-yeung Shum   Katsushi Ikeuchi   Raj Reddy

December, 1993
CMU-CS-93-213

School of Computer Science
Carnegie Mellon University
Pittsburgh, Pennsylvania 15213

This research is partially sponsored by the Department of the Army, Army Research Office under grant number DAAH04-94-G-0006, partially sponsored by the Avionics Laboratory, Wright Research and Development Center, Aeronautical Systems Division (AFSC), U.S. Air Force, Wright-Patterson AFB, Ohio 45433-6543 under Contract F33615-90-C-1465, ARPA Order No. 7597, and partially supported by NSF under Contract IRI-9224521. The views and conclusions contained in this document are those of the authors and should not be interpreted as representing the official policies or endorsements, either expressed or implied, of the Department of the Army or the U.S. government.

**Keywords:** 3D object modeling, multiple view merging. principal component analysis.