

Computer Vision Based Analysis of Broccoli for Application in a Selective Autonomous Harvester

Rachael Angela Ramirez

Thesis submitted to the faculty of the Virginia Polytechnic Institute and State
University in partial fulfillment of the requirements for the degree of

Master of Science
in
Mechanical Engineering

Dr. Charles F. Reinholtz, Committee Chair
Department of Mechanical Engineering

Dr. Jerzy Nowak
Department of Horticulture

Dr. Pushkin Kachroo
Department of Electrical and Computer Engineering

July 25, 2006
Blacksburg, Virginia

Keywords: broccoli, computer vision, mechanical harvester, autonomous vehicle,
co-occurrence matrix, texture analysis

Copyright 2006, Rachael A. Ramirez