The objective of this project is to use photoacoustics to detect metastasized melanoma in sentinel lymph nodes. Because metastasized melanoma is a serious condition, this method can accurately detect the extent of cancer in the patient. When a patient is first diagnosed with melanoma, it is removed through surgery. In order to check for metastasized melanoma, a simple surgical procedure called sentinel lymph node biopsy is performed. This involves injecting a radioactive dye around the site of melanoma and tracing how it travels through the lymph system. The first lymph node reached is the sentinel lymph node, and it is removed for pathological analysis. The pathologist takes thin slices of the lymph node, prepares slides, and scans them for melanoma. In the interest of time and efficiency, only a handful of slices are taken, leaving much of the sentinel lymph node unchecked. This system allows for the scanning of the entire lymph node, as once the slides are prepared, it is fully autonomous. In turn this allows for a more accurate scan of the lymph node which leads to earlier, more accurate diagnosis; which is essential for planning effective treatment plans or easing a patients mind.