

## ABSTRACT

Ovarial cancer is a tumor that arises in the uterus and can be fatal if not treated as early as possible. Ovarial cancer is difficult to detect at an early stage because it does not cause specific symptoms and is generally only detected at an advanced stage. At an advanced stage the cancer will be more difficult to treat and the treatment costs will be more expensive.

Based on these problems, a research was made by creating an android application to detect ovarial cancer as early as possible with the expert system method. Obtained questionnaire data from cancer patients from Hasan Sadikin Hospital Bandung which will be a reference in making the application. The author compares the accuracy of data prediction using the K-Nearest Neighbor, Support Vector Machine, and Random Forest algorithms. Then proceed with application development and Quality of Services analysis using Apache JMeter.

The test results show that the *K-Nearest Neighbor* algorithm using a value of  $K = 7$  gets an accuracy value of 92.3%. Therefore, the *K-Nearest Neighbor* algorithm was chosen to be implemented in the ovarial cancer detection application. By entering the *K-Nearest Neighbor* algorithm into the application, the results obtained in the application is 80.23% of accuracy. Then the *Quality of Service* analysis resulted in the best *throughput* of 2.89 kbps, and the best *latency* of 13s, each with a load of 100 users and able to handle 100 and 150 *users* without *error*.

**Keyword :** Ovarial Cancer, Expert System, *Android*, *K-Nearest Neighbor*, *Support Vector Machine*