

## ***ABSTRACT***

The final project will create a learning module about IIR digital filter. The keluaran module of the IIR filter that can be integrated with the device beaglebone black using Matlab Simulink. This module manufacturing due to the lack of learning modules and because they lack the learning device subject signal processing and multimedia technologies.

The implementation uses Matlab Simulink as an application for designing filters to be integrated with the device, the filters are designed using IIR and beaglebone black is a device that will be integrated with Matlab Simulink. Implementation of this by doing the work consists of designing filters and filter simulation using Simulink matlab, perform system modeling using Simulink matlab, and then be deployed on the device.

The final project is successfully implemented with learning modules and output a signal of implementations that have been filtered by multiple parameters. Successful implementation is done by means of judicial review from the time domain and frequency domain visually, so as to facilitate the monitoring and decision making. The success of this implementation is also evidenced by the value of the results of the questionnaire, which totaled 3.88 to disagree with ease.

**Keywords:** IIR digital filter, Matlab, Beaglebone black.