Rupom Saha

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FYP 2023 Initiation Form

**Student Name**: Rupom Saha

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**Program**: Bachelors of Mechatronics Engineering (Honours)

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**Proposed Project Title**: Automated Electronics Repair of Modern Communication Devices using Thermal Imaging and Machine Learning.

**Project Description**: The use of modern Communication devices is integral to our lives. We have more technological devices in our time than the number of humans on earth. These devices are bound to get into a lot of accidental malfunctions. Electronics Repair is a very complex, time consuming and money consuming process. The process also requires special knowledge and experience to execute.

In this project we will deal with the process of electronics repair and come to a modern innovative solution that involves automation. This project’s primary goal is to come up with a system that can identify hardware faults, analyse and rectify.

**Project Objective**:

* Machine Learning Algorithm
* Automated Repair Tools
* Thermal Image Analyser
* User-Friendly Interface

**Deliverables:**

* Faster repair
* Cost friendly
* Environment friendly recycling
* Repair use for commercialized and personal use.
* Increased accuracy of analysis and repair.

**Resources Needed:**

* Thermal Imaging Equipment for PCBs

**Anticipated Risks:**

* None, as simulation and research are the only grounds for the research.

**Grade Expectation:**

50-65%