# **FCV Project Proposal**

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**Project Idea:**

Handwritten Signature Verification using Neural Networks

The handwritten signature is a particularly important type of biometric trait, owing to its widespread use in legal, financial, and administrative settings to verify a person's identity. One of the reasons for its widespread use is that the process of collecting handwritten signatures is non-intrusive, and people are accustomed to using signatures in their daily lives. Signature verification systems seek to automatically determine whether a biometric sample belongs to the claimed individual. In other words, they are used to determine whether query signatures are authentic or forgeries.

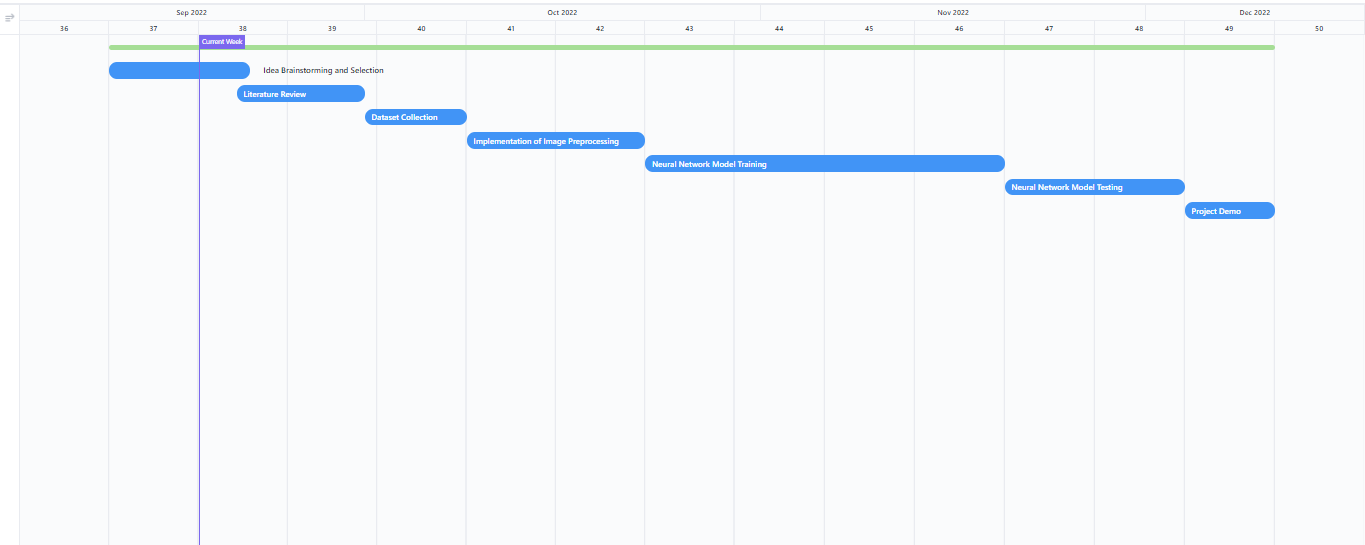
* **Problem Question:**

For many financial documents, including bank checks, signatures are frequently employed as a method of personal authentication. Because signature authentication makes a vast quantity of information available, frauds involving signatures may be catastrophic. To ensure the protection of sensitive data, signatures on financial papers must be checked. Even though banks are computerized, signature verification in cheques is done manually, which takes time and can sometimes be misleading. A specimen signature is used to manually verify the signature on the cheque. However, this method is ineffective because the naked eye cannot detect forgeries.

* **Expected Outcomes:**

The system will first take scanned images as input, we first need to extract the signature and localize it. To achieve this goal, we have used approaches based on edge-detection, OCR, and line-sweep method. The data will be then preprocessed to extract features for characterizing signatures such as convex hull area, contour area, aspect ratio, bounding rectangle area, etc. These features are then used in neural network classifiers to detect genuineness of a signature.

* **Gantt Chart:**



* **SDG (Sustainable Development Goals):**
* **Industry Innovation and Infrastructure:**

Signatures are widely used to provide personal authentication for various financial documents such as bank cheques. Signature fraud can be disastrous because signature authentication makes a large amount of information available. This means that signatures on financial documents must be verified in order to ensure the security of sensitive data. Our innovative system will make the process of authentication automated and easier for banks personnel.