

### **Tell us what your idea is.**

During harvest season , farmers tend to have difficulties in sorting out their produce and end up mixing produce the good and the bad or throwing away good produce. As a frequent user of Google lens , I conceived a use case in which I would create an image recognition system for produce sorting and dubbed it **sortML**. (In this case I'll be using maize ).I will train my modules to identify maize with defects and maize fit for consumption, by pointing your camera at the grains it will mark the grain red if defective and green if its healthy. It will also be able to detect foreign objects in the grain.SortML will be done using **dart**.

Google's services I plan on using :

1. AutoML Vision Edge for training models to detect potentially bad and good produce.
2. Tensor-flow to train the model to take parameters for affected produce and suggest potential causes .
3. Firebase MLKit to serve these models and run them locally on the device.
4. Firebase for tracking app quality.

### **Tell us how you plan on bringing it to life.**

**Where the project is now:**

We are collecting data and samples of maize from local farmers (they are quite excited) ,designing UI, UX,Architecting out TesnorFlow modules and doing lots of reading on maize.

**How can Google help us.**

1. **Help us to squeeze every bit of performance for object detection on-device inference**
  2. **Help us reach a wide audience**
  3. **Access to <https://cloud.google.com/tpu/> to train models** (currently we do this locally and it takes forever)
  4. **Access to <https://cloud.google.com/automl/> to train models** (currently we do this locally and it takes forever)
  5. Help us build ML pipeline for model training for person recognition based on location clusters. We plan to use Batch ML Pipeline Architecture, but we could really use some help with this.
- **December 2019:**
    - Implement recognition flow with Tensor-flow Lite (SSD MobileNet).
    - **Create UI/UX prototype.**
    - Implement recognition flow with Tensor-flow Lite (transfer learning from SSD MobileNet).
  - **January 2020:**
    - **Soft releases for Friends&Family.**
    - Implement 3rd party content backend developers console.
  - **February 2020 :**
    - Enhance recognition flow performance and accuracy.
  - **March 2020 :**
    - Finalize UI.
    - Implement social connections on backend.
  - **April 2020 :**

- Testing and Deployment.
- Soft releases in small user groups: farmers Associations and SACCOS, tech communities (for fun and feedback).
- **May 2020 :**
  - Release at Google IO :)

**About me:**

My name is Griffins ,a passionate developer who loves dart(Flutter),machine learning and Artificial intelligence and spends most of my time doing flutter projects,teaching flutter and working with Tensor-flow .Currently I'm about to seat for an associate android developer certification test sponsored by Google in partnership with Andela and Pluralsight .I have over 3 experience in native android development. My personal web is <https://ggriffo-dev.web.app/#/>.