# Problem-Solution fit canvas 2.0

## Detecting Parkinson's disease using Machine Learning

**Define CS, fit into CC**

### 1. CUSTOMER SEGMENT(S) — CS

Who is your customer?
i.e. working parents of 0-5 y.o. kids

1. Person with Parkinson Disease Symptoms.
2. Those over 65 more who are in the high-risk zone for the illness
3. People who does a full body check up.
4. Prediction for a cost-free diagnosis.

### 6. CUSTOMER CONSTRAINTS — CC

What constraints prevent your customers from taking action or limit their choices of solutions? i.e. spending power, budget, no cash, network connection, available devices.

1. Easy interface
2. Budget
3. Finding difficult to use the app

### 5. AVAILABLE SOLUTIONS — AS

Which solutions are available to the customers when they face the problem or need to get the job done? What have they tried in the past? What pros & cons do these solutions have? i.e. pen and paper is an alternative to digital notetaking

1. It is beneficial, advantageous, accurate (precise) application.
2. Makes the user to be aware in detecting the disease in prior.

**Explore AS, differentiate**

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**Focus on J&P, tap into BE, understand RC**

### 2. JOBS-TO-BE-DONE / PROBLEMS — J&P

Which jobs-to-be-done (or problems) do you address for your customers? There could be more than one; explore different sides.

1. Our project helps the customers to detect Parkinson's disease in the early stage and the exact percentage affected by the disease can be viewed
2. Our goal for the customers is to quantify the visual appearance of the spiral and wave datasets using machine learning approaches.

### 9. PROBLEM ROOT CAUSE — RC

What is the real reason that this problem exists? What is the back story behind the need to do this job? i.e. customers have to do it because of the change in regulations.

1. Detection and prediction of Parkinson's disease.
2. Reducing the interference or interruption of the medical crew or health care workers.

### 7. BEHAVIOUR — BE

What does your customer do to address the problem and get the job done? i.e. directly related: find the right solar panel installer, calculate usage and benefits; indirectly associated: customers spend free time on volunteering work (i.e. Greenpeace)

1. Start using the detector for accurate results.
2. Making sure they do not have any of the symptoms listed in the ML web application.
3. Enter their symptoms so as to find whether they have the disease or not.

**Focus on J&P, tap into BE, understand RC**

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**Identify strong TR & EM**

### 3. TRIGGERS — TR

What triggers customers to act? i.e. seeing their neighbour installing solar panels, reading about a more efficient solution in the news.

For this project design, the Implementation of the dataset is the Major trigger. Because, the datas are in the image formats. If the data's are image formats the algorithm data Training is also complex

### 4. EMOTIONS: BEFORE / AFTER — EM

How do customers feel when they face a problem or a job and afterwards? i.e. lost, insecure > confident, in control - use it in your communication strategy & design.

1. Before, the individual will be in a dilemma on whether they have Parkinson's disease or not.
2. After using the ML web application, they will be able to know whether they have the disease or not

### 10. YOUR SOLUTION — SL

If you are working on an existing business, write down your current solution first, fill in the canvas, and check how much it fits reality.
If you are working on a new business proposition, then keep it blank until you fill in the canvas and come up with a solution that fits within customer limitations, solves a problem and matches customer behaviour.

Detection of Parkinson disease using the spiral and wave drawing can quantity the visual appearance of these drawings and then train a machine learning model to classify them. We can use the Histogram of Oriented Gradients (HOG) image descriptor along with a Random Forest classifier to automatically detect Parkinson's disease in hand drawn image of spirals and waves.

### 8. CHANNELS of BEHAVIOUR — CH

**8.1 ONLINE**
What kind of actions do customers take online? Extract online channels from #7

1. Checks for available doctors
2. Carefully analyses about the disease
3. Identifies for nearby medical centres

**8.2 OFFLINE**
What kind of actions do customers take offline? Extract offline channels from #7 and use them for customer development.

In ofine, we just use the hand drawn spirals or wave images as input and detect the disease. In ofine we easily update the model (Using new data set of algorithms)

**Extract online & offline CH of BE**

**AMALTAMA**