# *Optimization for fitting the best curve using Differential Evolution*

**Project members:**
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*Project description:*

Using the data generator, we create a polynomial function and the data points based on this function. The task is to guess the polynomial coefficients using Differential Evolution and implementing the user friendly interface to play around with it.

*Motivation:*

The main motivation is to dive deeper into the evolutionary computation and get ourselfs more familiar with genetic algorithms.

*Main tasks and allocation of them:*

1. Differential evolution algorithm - both of us are not that familiar with this topic, so I believe this will be a team working: researching a bunch of stuff, trying to code it and etc.

2. Developing a data generator - creating a simple component for sampling data points of a random degree polynomial - Illia

3. Designing a basic application UI with buttons like “generate random polynomial”, “fit”, “compute score” - Dima

4. Creating random function on the canvas (“generate random polynomial”) - Illia

5. Integrating the final algorithm into the app (“fit”) - Dima

6. Calculating the error of the algorithm (“compute score”) - Illia

*Expected results:*

An application which will allow you to observe the process of fitting the curve with fairly nice visualizations