



Hello! We are Team Crazy Farmers



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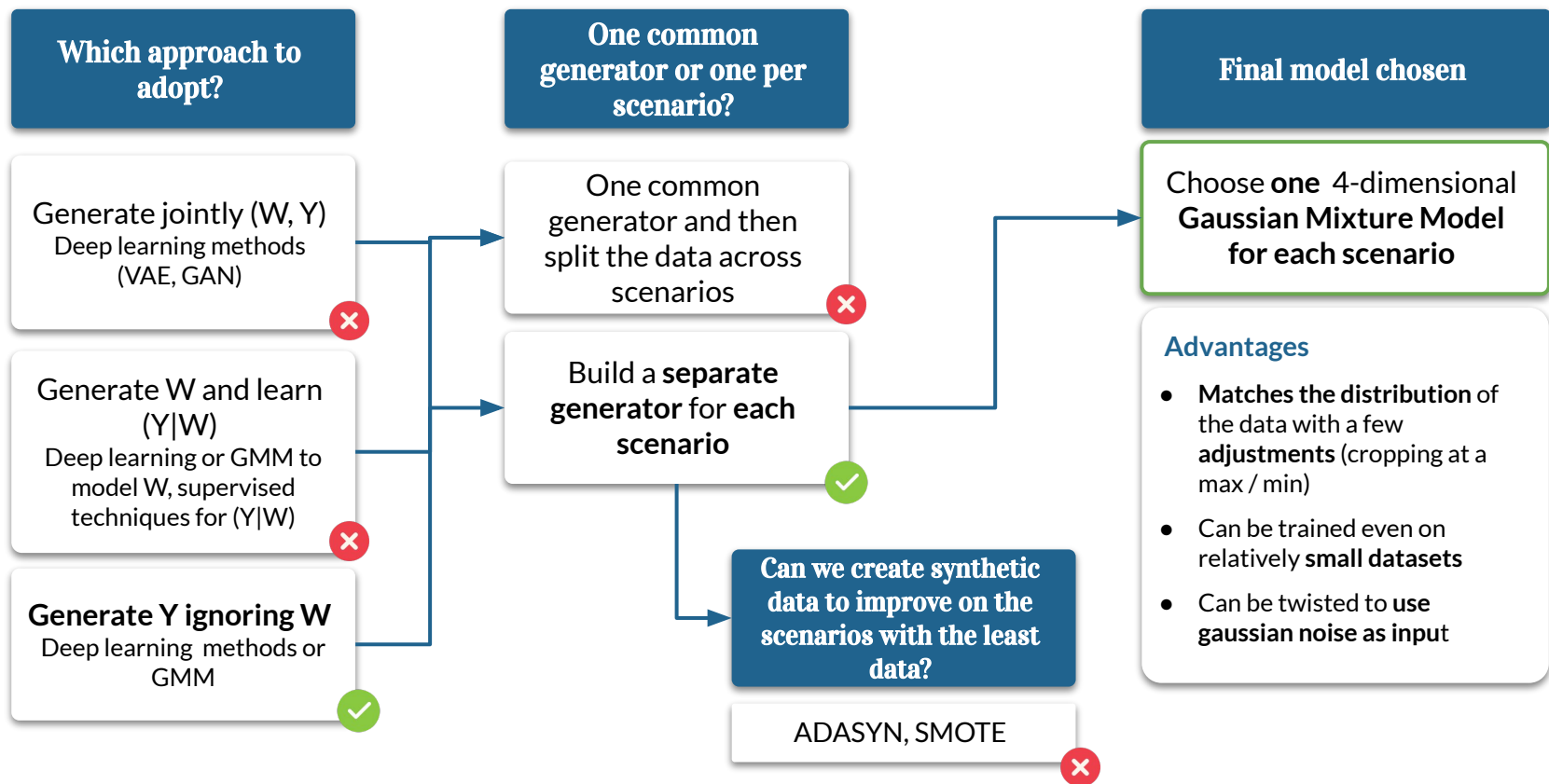
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Our team has tried several parallel approaches on the two stages of the project



We then went through 3 main stages to build the final generators

1

Identify the optimal number of components for the GMM

- Use **Bayesian Gaussian Model** to shrink unnecessary components
- Select between **6 and 12 components for each model**

2

Tune each generator with the SWD

- With the right number of components, create 20 models
- For each model, make 30 simulations and compute the mean SWD with 5000 projections
- **Keep only the best**

3

Twist each generator to take Gaussian noise as input

- Extract **mean** and **covariance** matrices for the selected GMM
- Use mean and Cholesky decomposition of the cov matrix to **recreate the target distribution** from the $N(0,1)$ noise

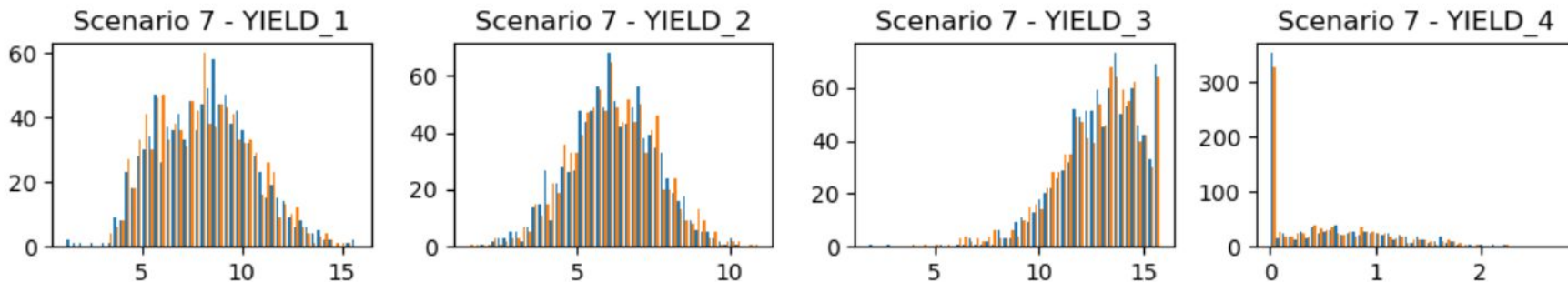


Fig 1. An example of simulation for the 7th scenario - Distribution of the 4 yields, true data (blue) vs synthetic (orange)

Final weighted SWD: 0.7473



Thank you!
