

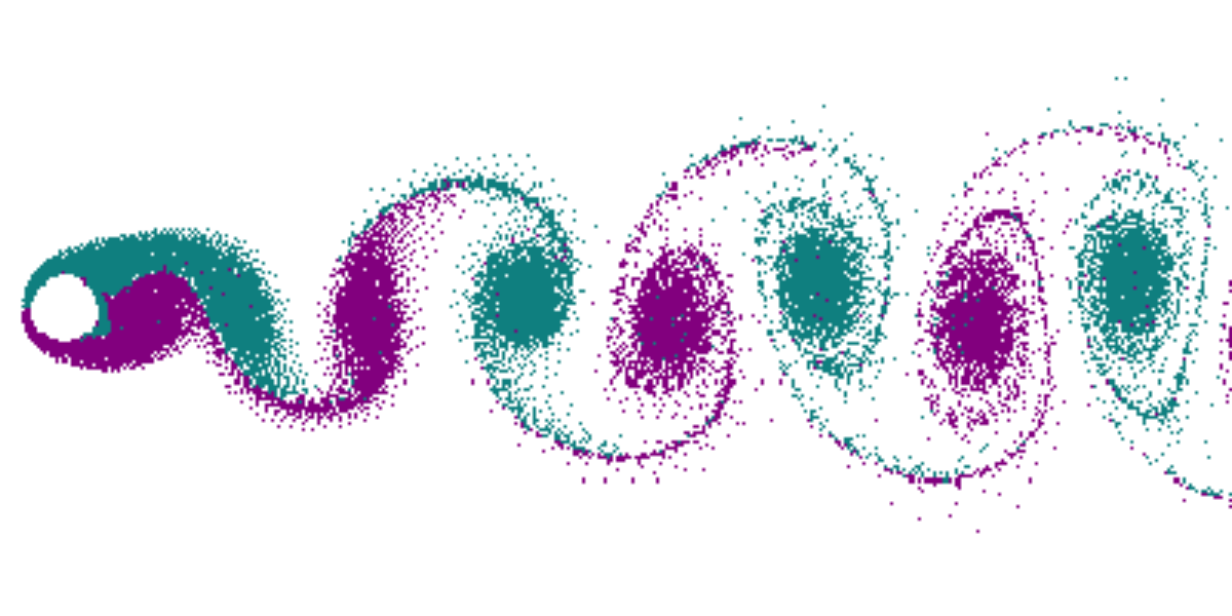


**step-by-step**

# General Overview

# Simulation

1. Formulate the flow problem
2. Build the geometry and flow domain
3. Establish the BC and IC
4. Build the mesh
5. Run the simulation and monitor
6. Perform post-processing





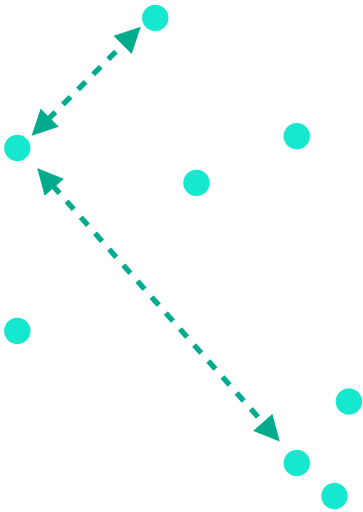
# Modeling

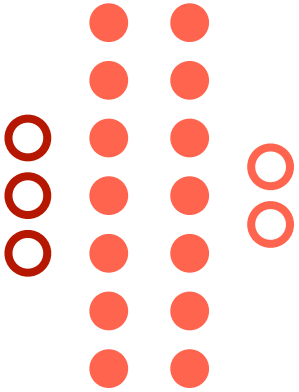
1. Select the features and ground truth
2. Clean and reformat the data
3. Build the dataset
4. Build and debug the neural model
5. Train and monitor
6. Check Physics coherence

# Coupling

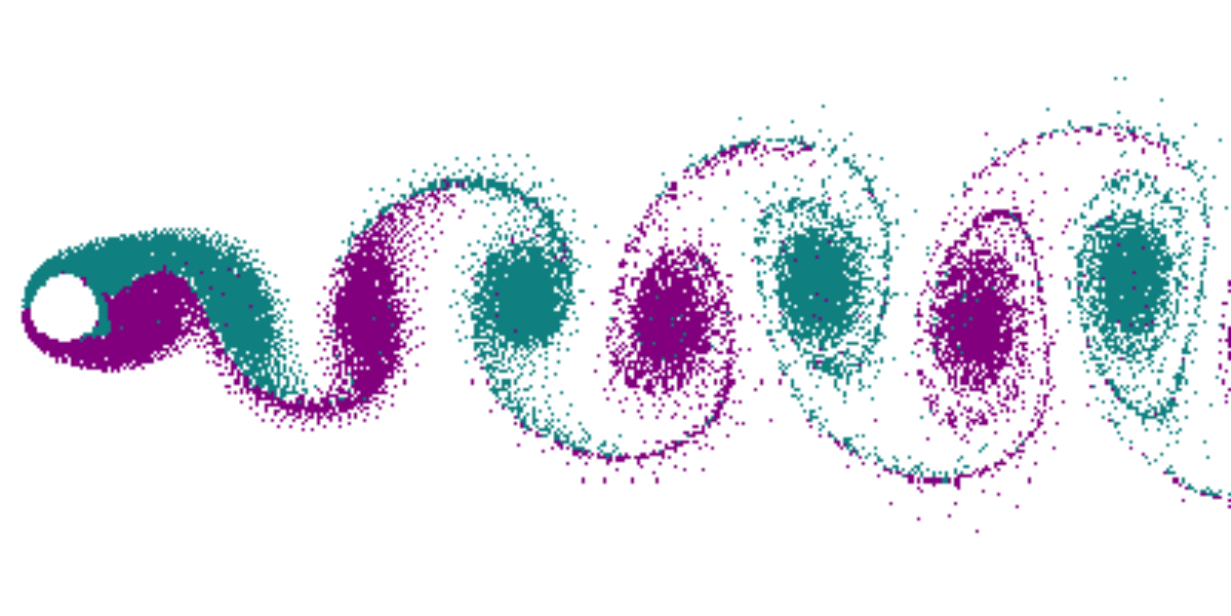
1. Containerize the neural model
2. Build lightweight inference engine
3. Optimize network placement
4. Couple solver + model
5. Monitor & insure numerical stability



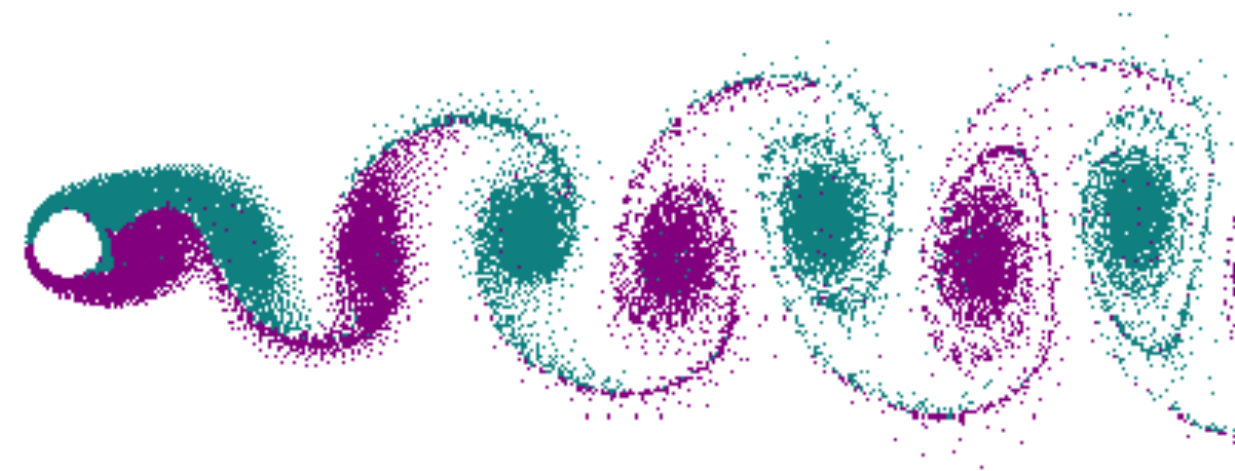






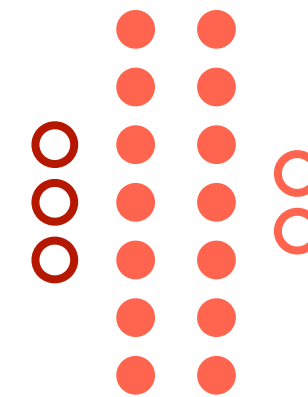
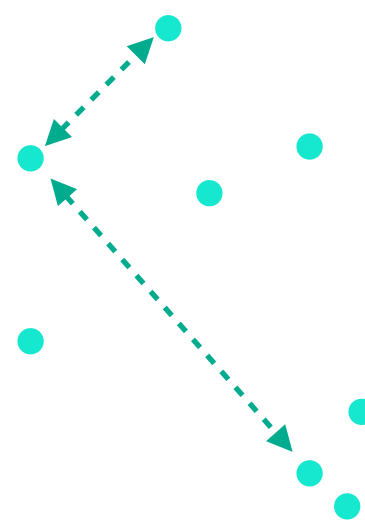


# Step-by-step General Overview



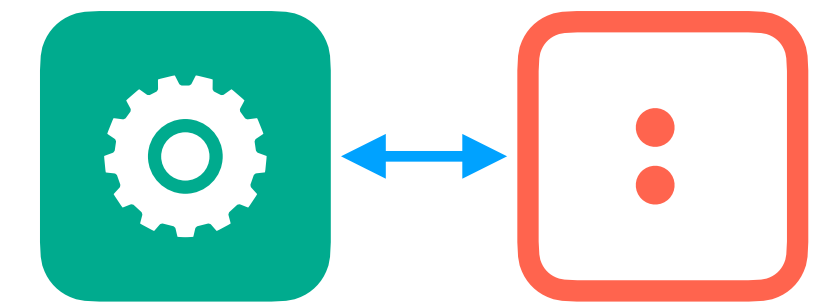
## Simulation

1. Formulate the flow problem
2. Build the geometry and flow domain
3. Establish the BC and IC
4. Build the mesh
5. Run the simulation and monitor
6. Perform post-processing



## Modeling

1. Select the features and ground truth
2. Clean and reformat the data
3. Build the dataset
4. Build and debug the neural model
5. Train and monitor
6. Check Physics coherence



## Coupling

1. Containerize the neural model
2. Build lightweight inference engine
3. Optimize network placement
4. Couple solver + model
5. Monitor & insure numerical stability

# **A Data Journey**

**Let's be Concrete**