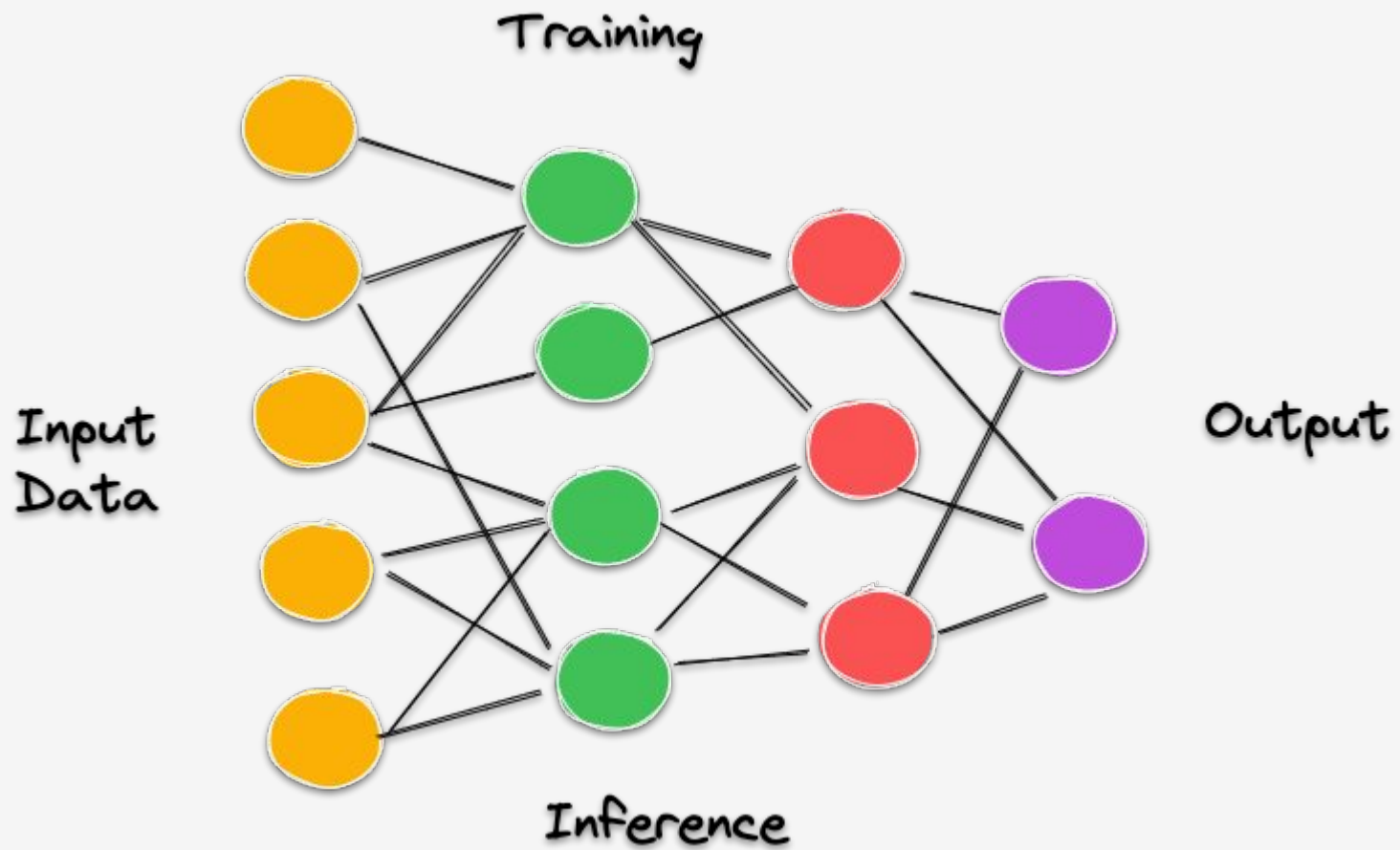
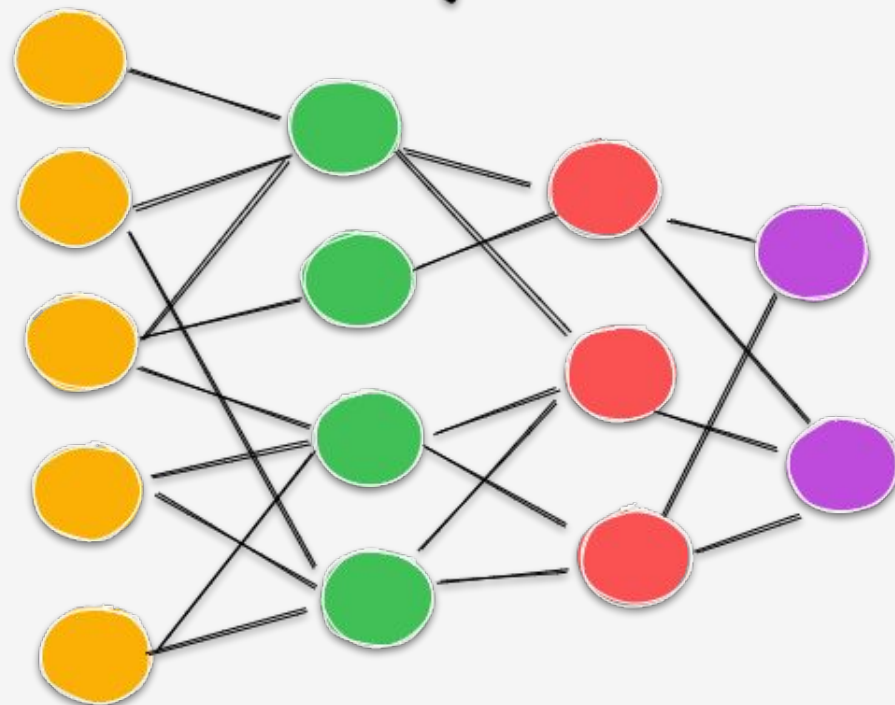


AI Lifecycle and ML Workflow



Input
Data



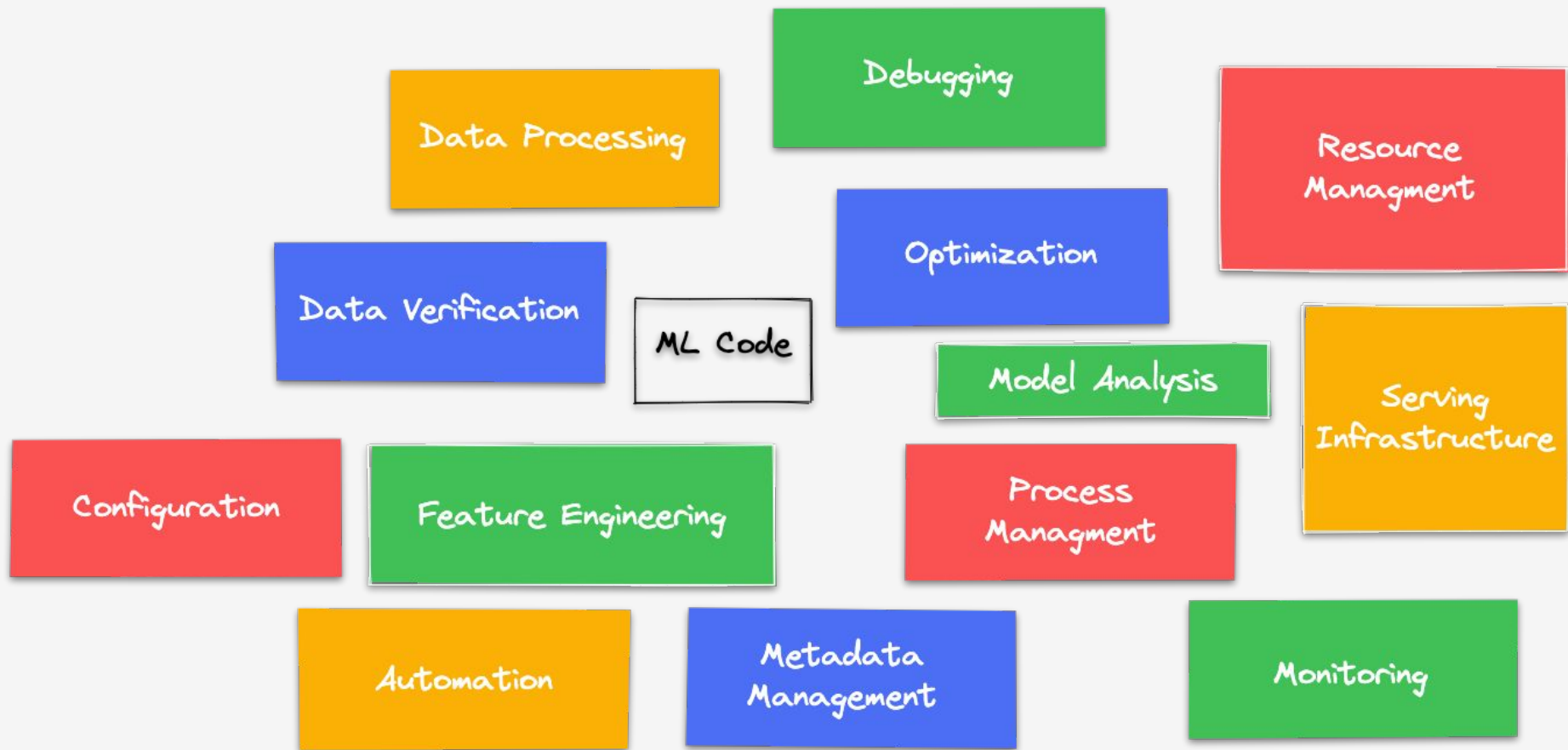
Training

Inference

ML Code



Output



AI Infrastructure

Data Engineering

Model Engineering

Model Deployment

Product Analytics

Data Engineering

Model Engineering

Model Deployment

Product Analytics

Data Engineering

- Defining data requirements
- Collecting data
- Labelling the data
- Inspect and clean the data
- Prepare data for training
- Augment the data
- Add more data

Data Engineering

Model Engineering

Model Deployment

Product Analytics

Model Engineering

- Training ML models
- Improving training speed
- Setting target metrics
- Evaluation against metrics
- Optimizing model training
- Keeping up with SOTA

Data Engineering

Model Engineering

Model Deployment

Product Analytics

Model Deployment

- Model conversion
- Performance optimization
- Energy-aware optimizations
- Security and privacy
- Inference serving APIs
- On-device fine-tuning

AI Infrastructure

Data Engineering

Model Engineering

Model Deployment

Product Analytics

Product Analytics

- Dashboards
- Field data evaluation
- Value-added for business
- Opportunities for advancement and improvements

AI Infrastructure

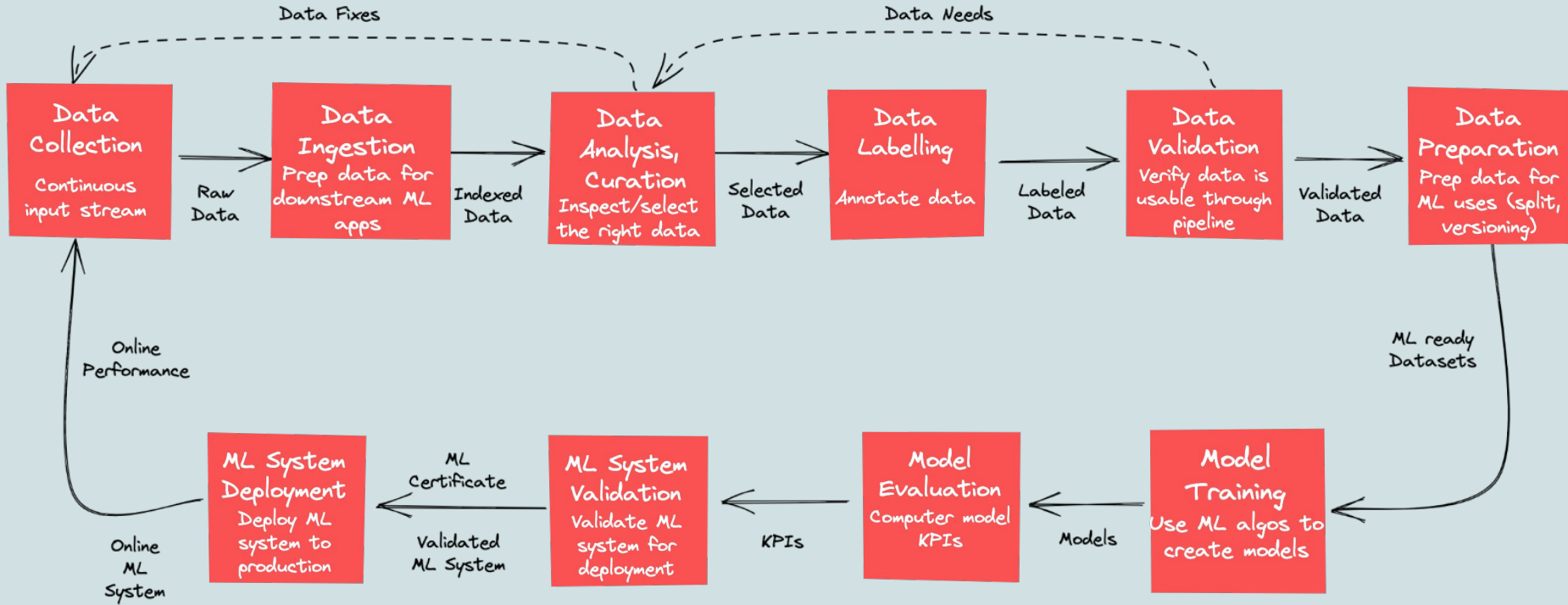
Data Engineering

Model Engineering

Model Deployment

Product Analytics

Focus in **TinyML**



ML Workflow

Acoust Sensors

Ultrasonic, Microphones,
Geophones, Vibrometers



Image Sensors

Thermal, Image



Motion Sensors

Gyroscope, Radar,
Accelerometer



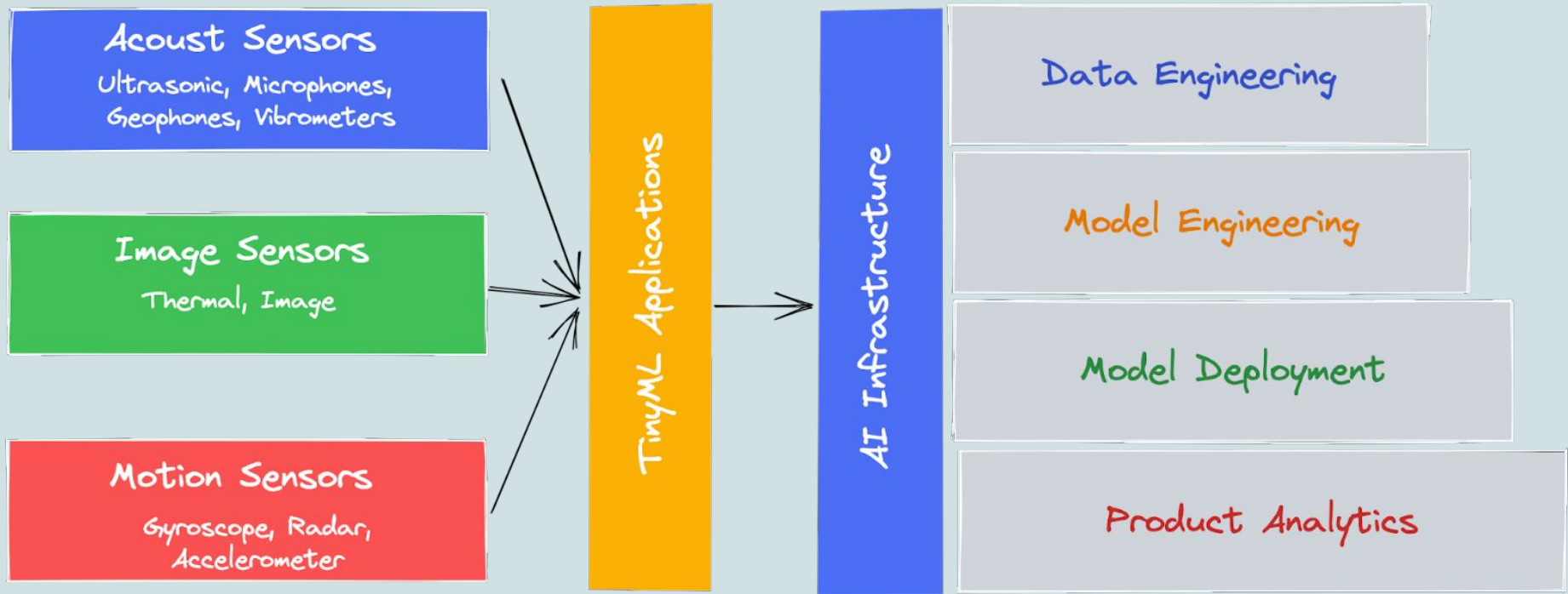
AI Infrastructure

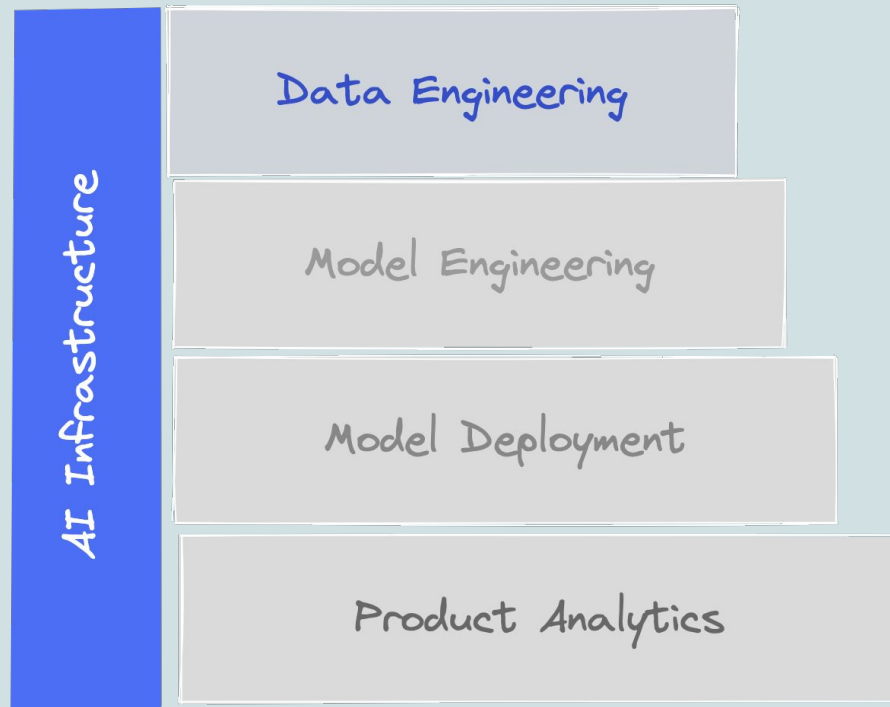
Data Engineering

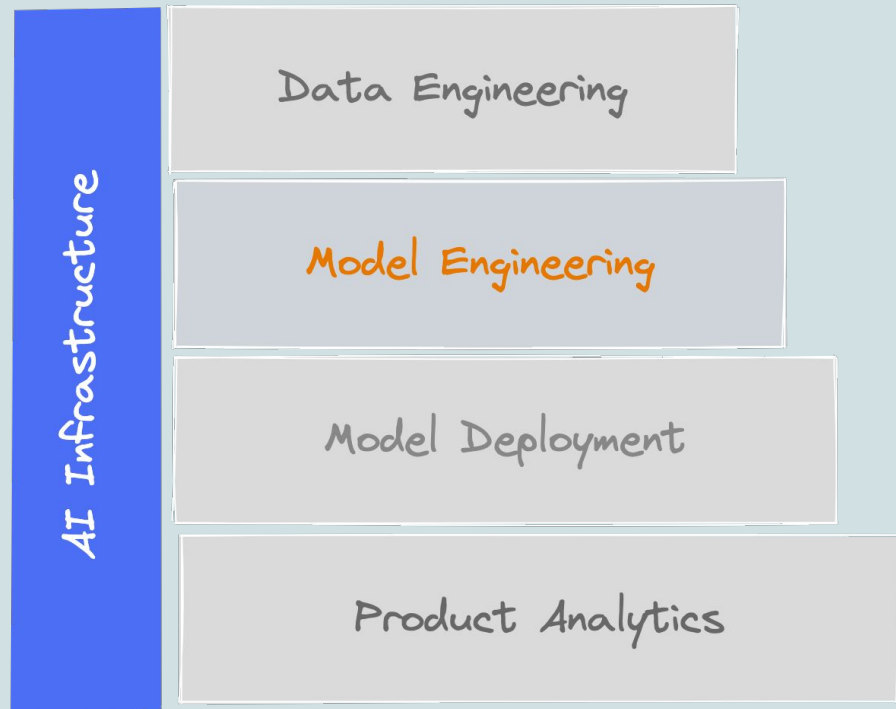
Model Engineering

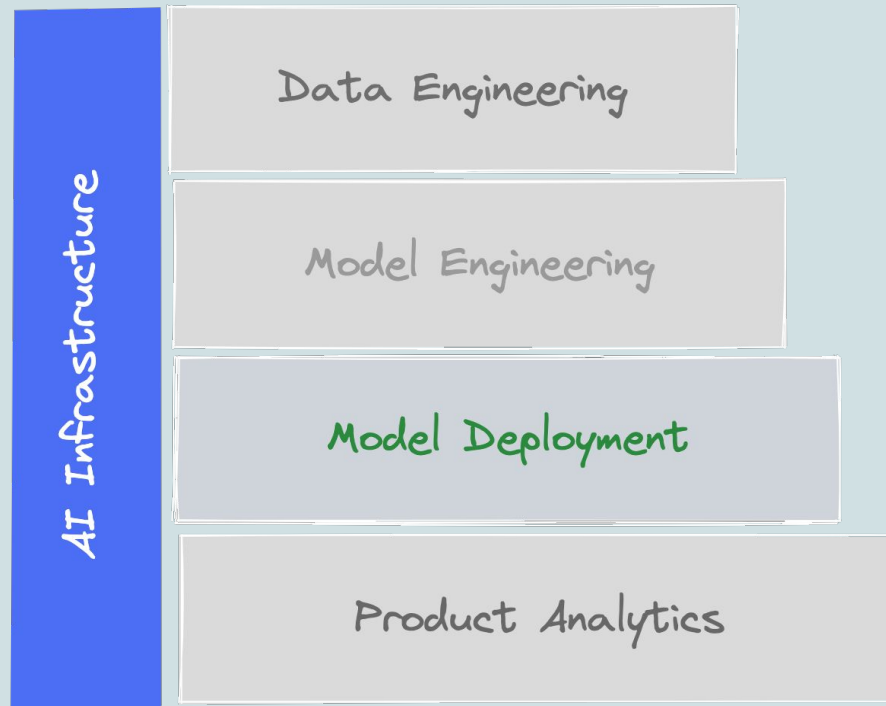
Model Deployment

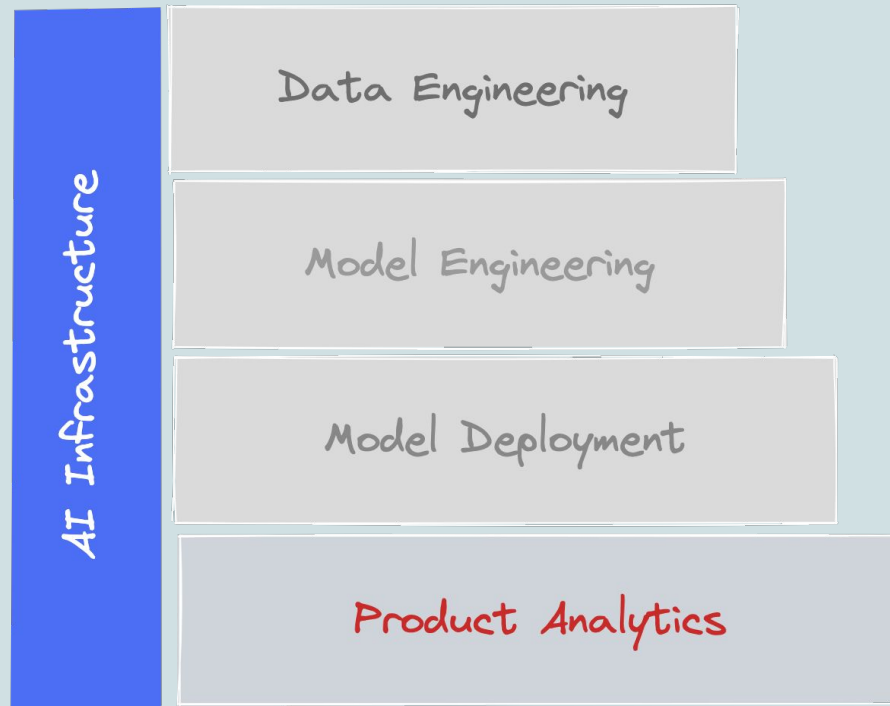
Product Analytics











Data Engineering

Model Engineering

Model Deployment

Product Analytics

Collect
Data

Preprocess
Data

Design a
Model

Train a
Model

Evaluate
Optimize

Convert
Model

Deploy
Model

Make
Inferences

 TensorFlow

 TensorFlow Lite

 TensorFlow Lite Micro