

## 0.1

**Deterministic:** For each one of the values of the regressor  $X$ , there is a single value of  $Y$ . **Stochastic:** Each value of  $X$  has a probability distribution associated to  $Y$ . **Black-box Models:** is focused on optimizing predictions subject to a set of regressors with less attention on the internal model's process. **Link function:** OLS regression mod-

els a continuous response  $Y_i$  (a random variable) via its conditioned mean (or expected value)  $\mu_i$  subject to  $k$  regressors  $X_{i,j}$ . modelling the mean  $\mu_i$  of a discrete-type response (such as binary or a count) is not straightforward.

```
library(glmbb)
```

```
data(crabs)
crabs <- crabs |> rename(n_males = satell) |> dplyr::select(-y)
group_avg_width <- crabs |> mutate(intervals = cut(crabs$width,
  breaks = 10)) |> group_by(intervals) |> summarise(mean =
  mean(n_males), n = n())
poi_model <- glm(n_males ~ width, family = poisson, data = crabs)
```