Stan code to fit von Bertalanffy growth model

```
// This Stan program defines a simple model, with a
// vector of values 'y' modeled as normally distributed
// with mean 'mu' and standard deviation 'sigma'.

// Learn more about model development with Stan at:
//    http://mc-stan.org/users/interfaces/rstan.html
//    https://github.com/stan-dev/rstan/wiki/RStan-Getting-Started


// The input data is a vector 'y' of length 'N'.

data {
  int<lower=0> N ;  // number of observations
  real TL[N] ;      // Total lengths of individual fish
  int AGE[N] ;      // Age of individual fish
}


// The parameters accepted by the model.

parameters {
  real<lower=0> sigma;            //LVB standard deviation
  real t0;        //LVB t0
  real Linf;  //LVB Linf
  real k;       //LVB k
}


// The model to be estimated. We model the output
// 'y' to be normally distributed with mean 'mu'
// and standard deviation 'sigma'

model {
  vector[N] ypred;
  target += uniform_lpdf(sigma | 0, 5);
  target += normal_lpdf(Linf| 50, 5);
  target += uniform_lpdf(k| 0, 0.5);
  target += normal_lpdf(t0| 0, 0.1);

  // calculate likelihood of data
  for(i in 1:N){
    ypred[i] =  Linf * (1-exp(-(k * (AGE[i]-t0) )) );
  }
  target += normal_lpdf(TL | ypred, sigma);
  }
```