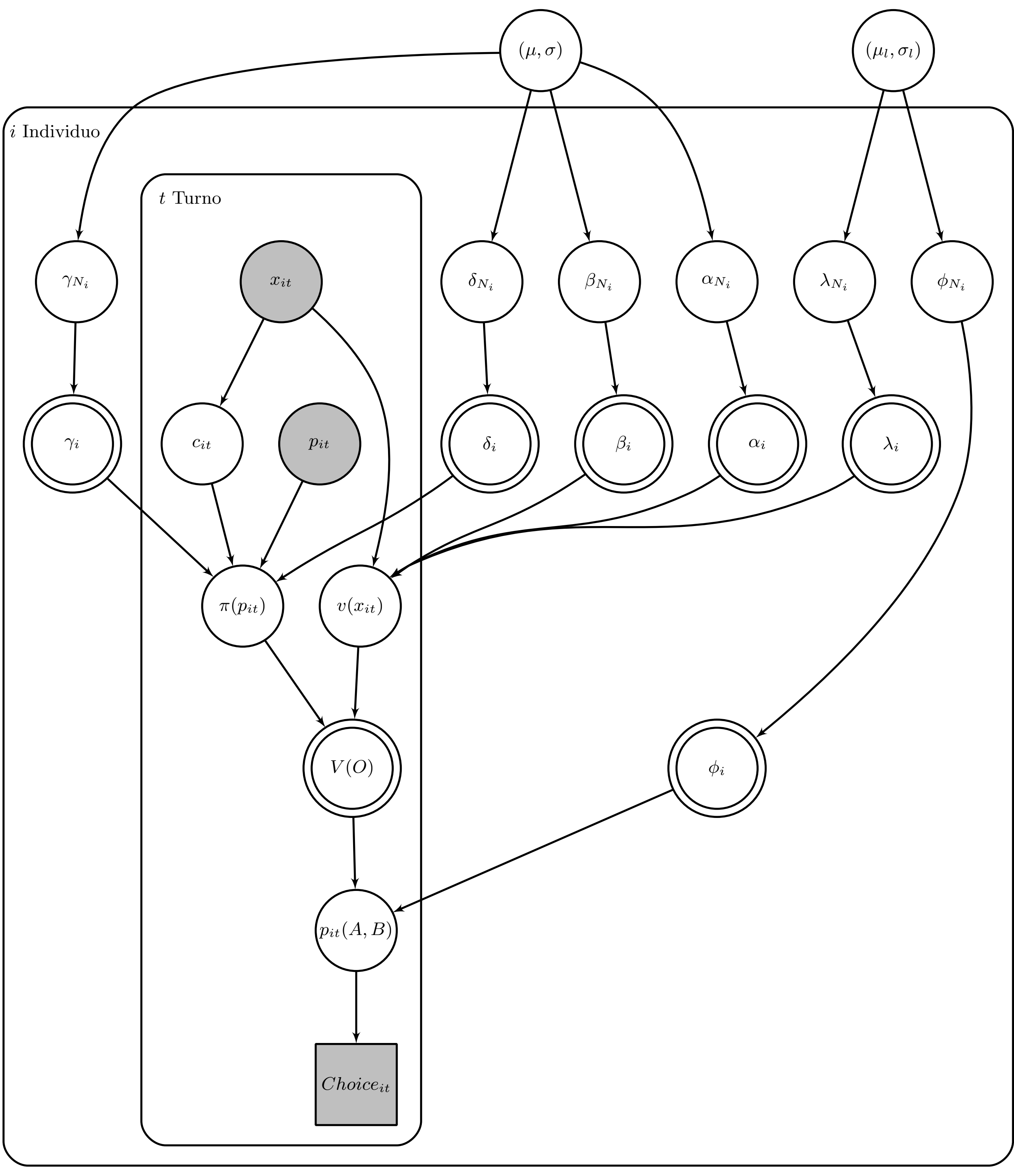
Cumulative Prospect Theory



$$Choice_{it} \sim Bernoulli(p_{it}(A,B))$$

$$\mu \sim Normal(0,1)$$

$$\sigma \sim Uniform(0,10)$$

$$\mu_l \sim Uniform(-2.3, 1.61)$$

$$\sigma_l \sim Uniform(0, 1.13)$$

$$\alpha_{N_i} \sim Normal(\mu,\sigma)[-3,3]$$

$$\alpha_i \sim Std-Normal_{CDF}(\alpha_{N_i})$$

$$\beta_{N_i} \sim Normal(\mu,\sigma)[-3,3]$$

$$\beta_i \sim Std-Normal_{CDF}(\beta_{N_i})$$

$$\gamma_{N_i} \sim Normal(\mu,\sigma)[-3,3]$$

$$\gamma_i \sim Std-Normal_{CDF}(\gamma_{N_i})$$

$$\delta_{N_i} \sim Normal(\mu,\sigma)[-3,3]$$

$$\delta_i \sim Std-Normal_{CDF}(\delta_{N_i})$$

$$\lambda_{N_i} \sim Normal(\mu_l,\sigma_l)$$

$$\lambda_i \sim e^{\lambda_{N_i}}$$

$$\phi_{N_i} \sim Normal(\mu_l,\sigma_l)$$

$$\phi_i \sim e^{\phi_{N_i}}$$

$$v(x_{it}) = \begin{cases} x_{it}^{\alpha_i} & x_{it} \geq 0 \\ -\lambda_i(-x_{it})^{\beta} & x_{it} < 0 \end{cases}$$

$$c_{it} = \begin{cases} \gamma_i & x_{it} \geq 0 \\ \delta_i & x_{it} < 0 \end{cases}$$

$$\pi(p_{it}) = \frac{p_{it}^c}{(p_{it}^c - (1-p_{it}^c))^{1/c}}$$

$$V(O) = \pi(p_{it_A})v(x_{it_A}) + \pi(p_{it_B})v(x_{it_B})$$

$$p_{it}(A,B) = \frac{1}{1+e^{\phi(V(B_t)-V(A_t))}}$$