Problem 1

η

G_0

α

$$\{B_1, ... B_K\}$$

$K = \inf$

$$
\begin{aligned}
(G(\eta \in B_1), ..., G(\eta \in B)K) &\sim \text{Dirich}(\alpha G_0(B_1), ... \alpha G_0(B_K)) \\
p(\eta_i \in B_j) &= \int p(\eta_i \in B_j | G) p(G | G_0) dG \\
&= \frac{\alpha G_0(B_j)}{\sum_K \alpha G_0(B_k)} \\
&\propto \alpha G_0(B_j)
\end{aligned}
$$

$$G|\eta_{1:n}, \alpha, G_0 \quad \sim \quad DP(\alpha, G_0 + \sum_{i=1}^{n} \delta_{\eta_i}(\eta))$$

G_0

B

C

D

γ

Problem 2

k

References