

To~ Dirich(et (2)
for j= 1 to be do
Mi ~ Divich(et(b)
end fr
for i = 1 to n do
Cin Categorical (T) Xi Multinominal (Aci, li)
Xi Multinominal (Aci, li)
Ind for
The PDF is Simply:
· V
Dirichlot (TV) x
TI Dirichlet (ly 1 f) x
To Categorical (Cil7) Multinaminul (Xi (Chci, lis)
Updating Tv. based on the PDF above we have:
Dirichlet (Z/2) x
TT Cottegorical (Cilz)
To & Dirichlet (2+ cnt) where cut is a
vector with Crtc the total number of
To & Dirichlet (2+ cnt) where cut is a vector with cnt c the total number of word in doc i producted by cottegory c.
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Updating U For a liven j.
Eased on the PDF above, we have:
hi Divichlet (Ilij 1/5) x
To Diviohlet (llj 1/8) x To Multinominal (Xi 1 (Mci, li)) E, where Ci = C
Us Dirichlet (p+ cot) where cut is a vector with cutx the total numbe of times category c producted by word x.
with costx the total numbe of times category
c producted by word x.
Updating Category Assignment for ith in n vector
ve vill have then
Categorical (Cil7) Multinaminal (Xi (Chc., lis)
The Categorical (Gi/T) Multinominal (XICM: les)
So we have
Prīci=c/R, all (U,l), Xi
This is just to compute the following for each C
This is just to compute the following for each C Categorical (CLT) Multinominal (Xi) (Uc, Li)
Then wormalize
Then normalise And update Ci by sampling Cfrom resulting Categorical distribution
Categorial distribution

