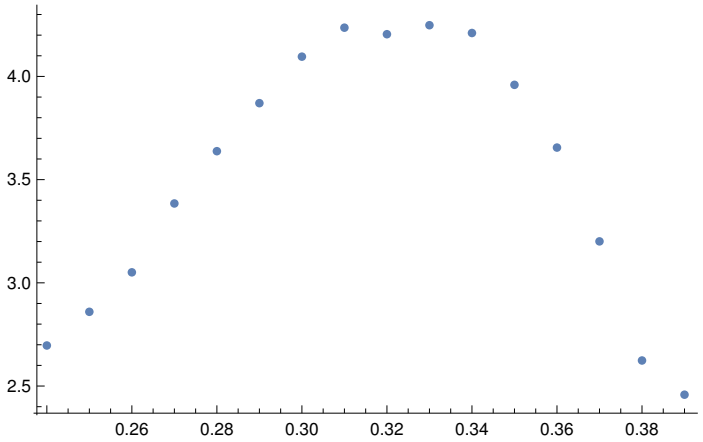
In[411]:=
```
SetDirectory["Documents/comp_phys/Ising_Model/scaling"];
CvData = Import["8_cv.dat", "Table"];
MagnetData = Import["8_magnetization.dat", "Table"];
SusceptData = Import["8_susceptibility.dat", "Table"];
```

SetDirectory::cdir : Cannot set current directory to Documents/comp_phys/Ising_Model/scaling. >>

In[429]:=
```
ListPlot[Take[SusceptData, {15, 30}]]
```

Out[429]=



In[430]:=
```
SusceptFit = NonlinearModelFit[Take[SusceptData, {15, 30}],
    A * Exp[-(x - mu)^2 / (2 Sigma^2)], {A, Sigma, mu}, x];
```

In[431]:=
```
SusceptFit[{"BestFit", "ParameterTable"}]
```

Out[431]=

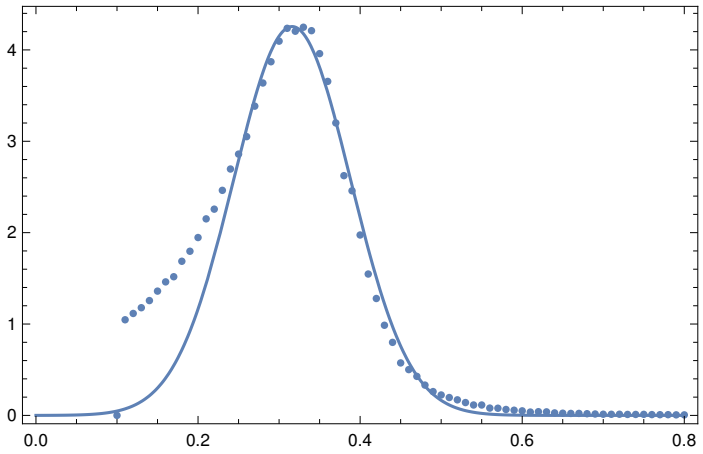
$$\left\{4.25537\, e^{-96.1758\,(-0.316112+x)^2},\right.$$

	Estimate	Standard Error	t-Statistic	P-Value
A	4.25537	0.0575262	73.9728	1.8753×10^{-18}
Sigma	−0.0721028	0.00227175	−31.7389	1.05383×10^{-13}
mu	0.316112	0.00131646	240.123	4.27584×10^{-25}

$\left.\right\}$

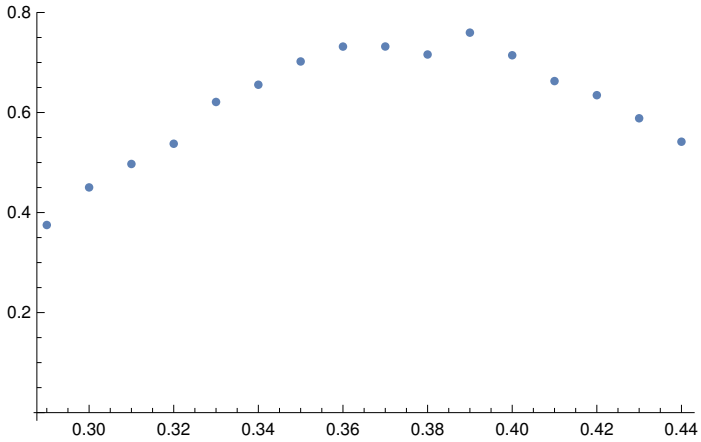
In[432]:=
```
Show[ListPlot[SusceptData],
 Plot[SusceptFit[x], {x, 0, 0.8}, PlotRange → {{0, 0.8}, {0, 20}}], Frame → True]
```

Out[432]=



In[446]:=
```
ListPlot[Take[CvData, {20, 35}]]
```

Out[446]=



In[447]:=
```
CvFit = NonlinearModelFit[Take[CvData, {20, 35}],
  A * Exp[-(x - mu)^2 / (2 * Sigma^2)], {A, Sigma, mu}, x]
```

Out[447]=
```
FittedModel[ 0.742246 e^-85.9978 (-«20»+x)^2 ]
```

In[448]:=
```
CvFit[{"BestFit", "ParameterTable"}]
```

Out[448]=

$$0.742246\, e^{-85.9978\,(-0.377971+x)^2}$$

	Estimate	Standard Error	t-Statistic	P-Value
A	0.742246	0.00563323	131.762	1.04235×10^{-21}
Sigma	−0.0762503	0.00150828	−50.5545	2.60025×10^{-16}
mu	0.377971	0.000900332	419.812	3.00153×10^{-28}

In[449]:=
```
Show[ListPlot[CvData], Plot[CvFit[x], {x, 0, 0.8}], Frame → True]
```

Out[449]=