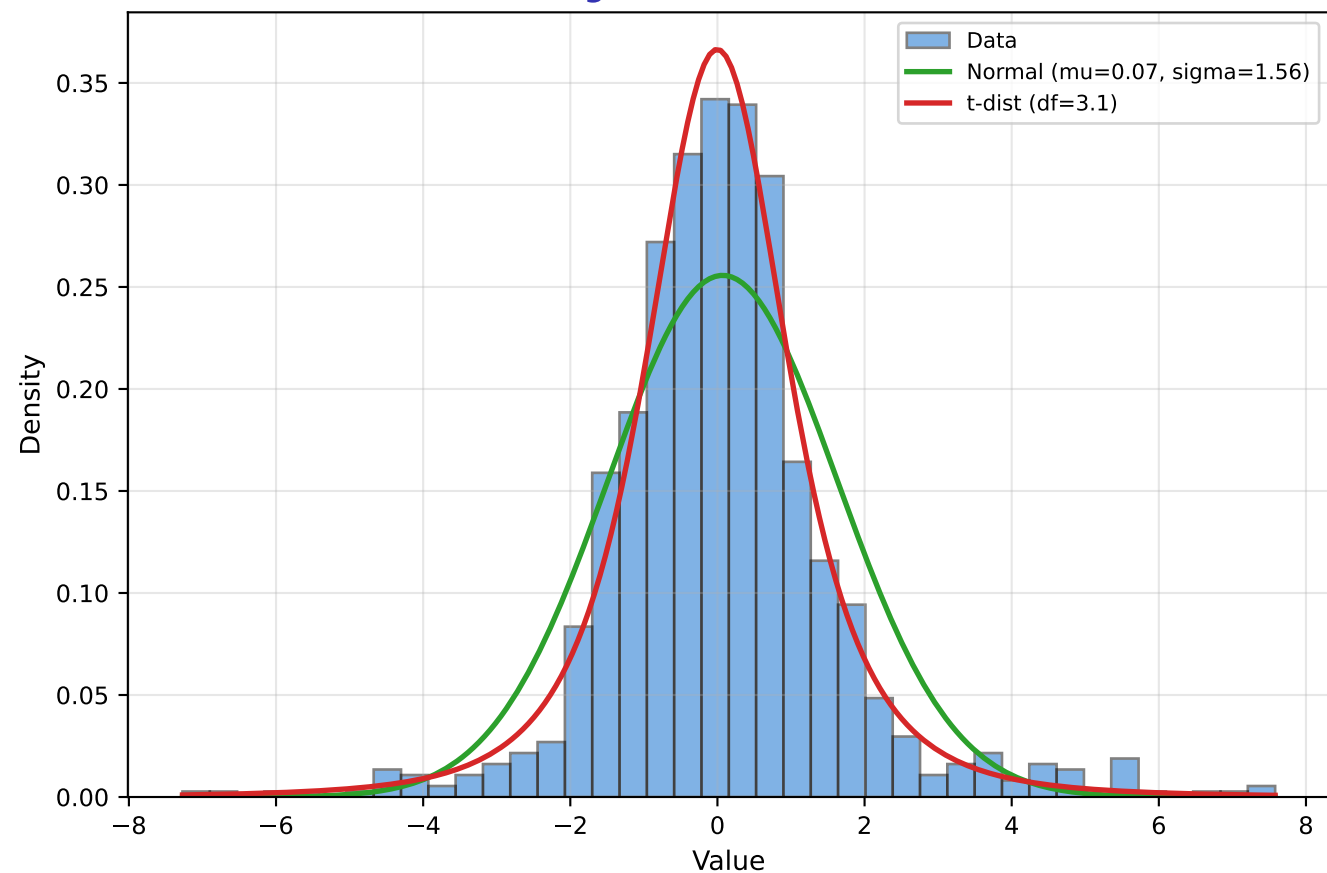
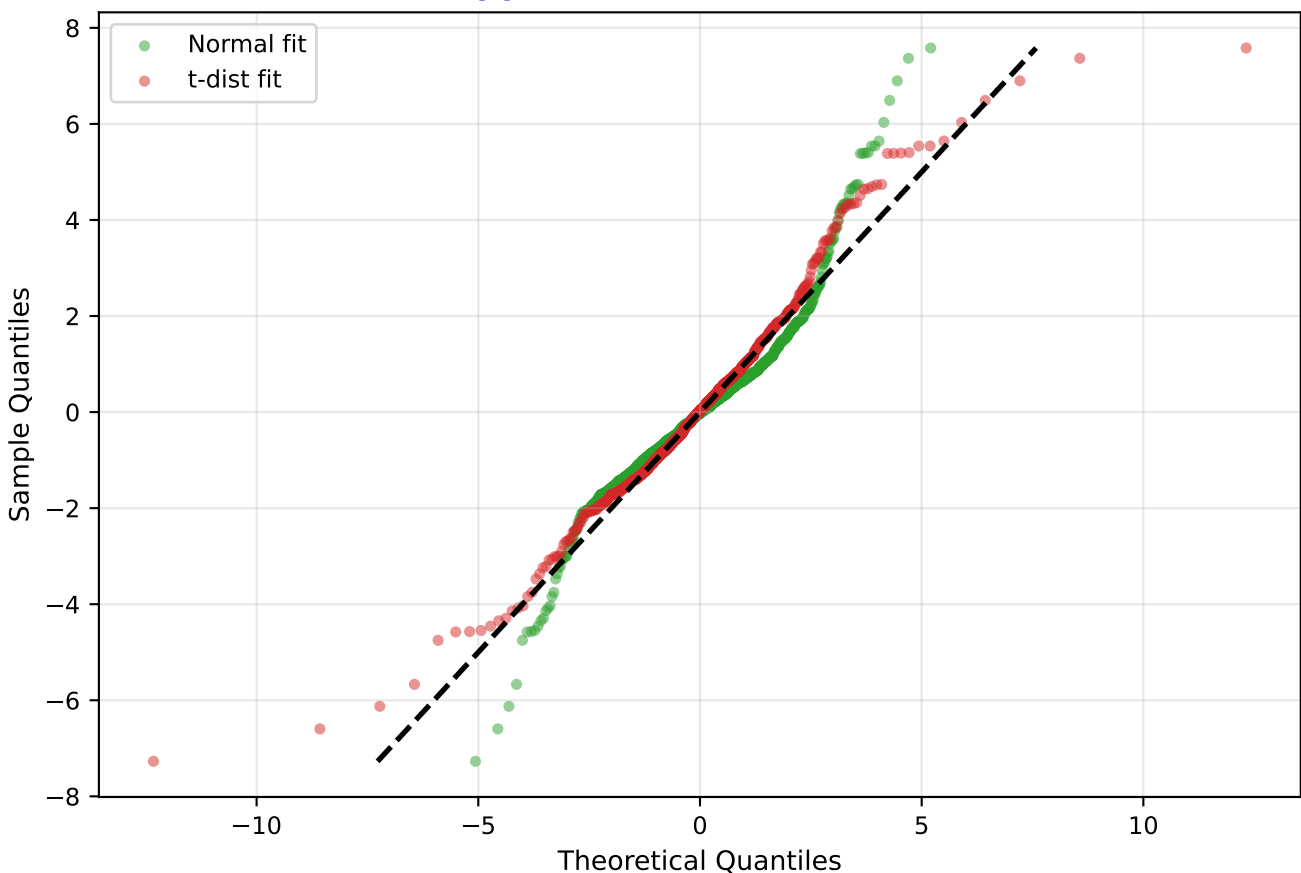


# Distribution Fitting

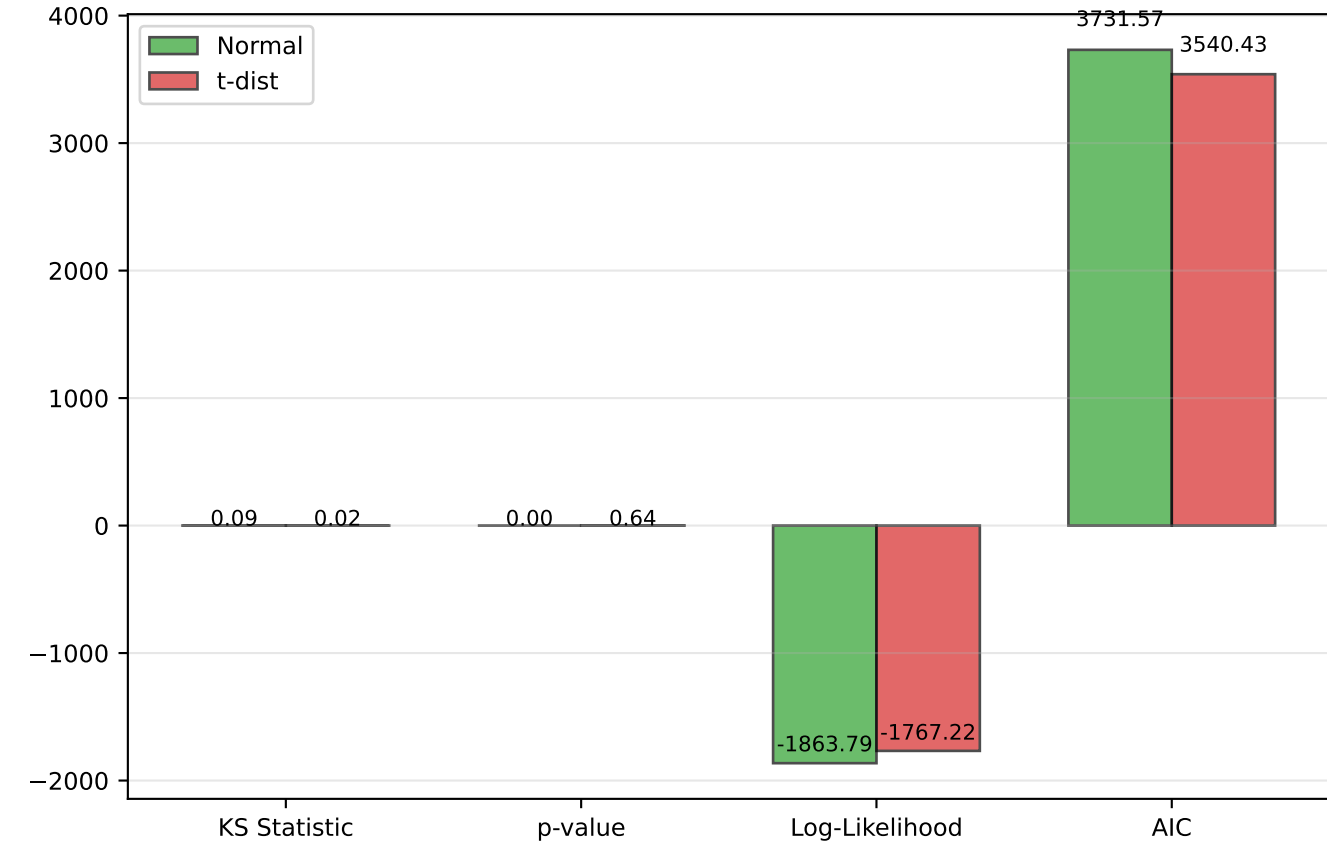
Fitting Distributions to Data



QQ Plot: Which Fit is Better?



Goodness of Fit Metrics



## Distribution Fitting Process

- 1. Visualize**  
`ax.hist(data, density=True)`  
Look at shape: symmetric? skewed? fat tails?
- 2. Fit candidates**  
`mu, sigma = stats.norm.fit(data)`  
Estimate parameters using MLE
- 3. Compare fits**  
`stats.kstest(data, "norm")`  
KS test, AIC, visual QQ plots
- 4. Validate**  
Check tail behavior  
Are extreme events captured?

**Best fit: t-distribution (lower AIC = better)**