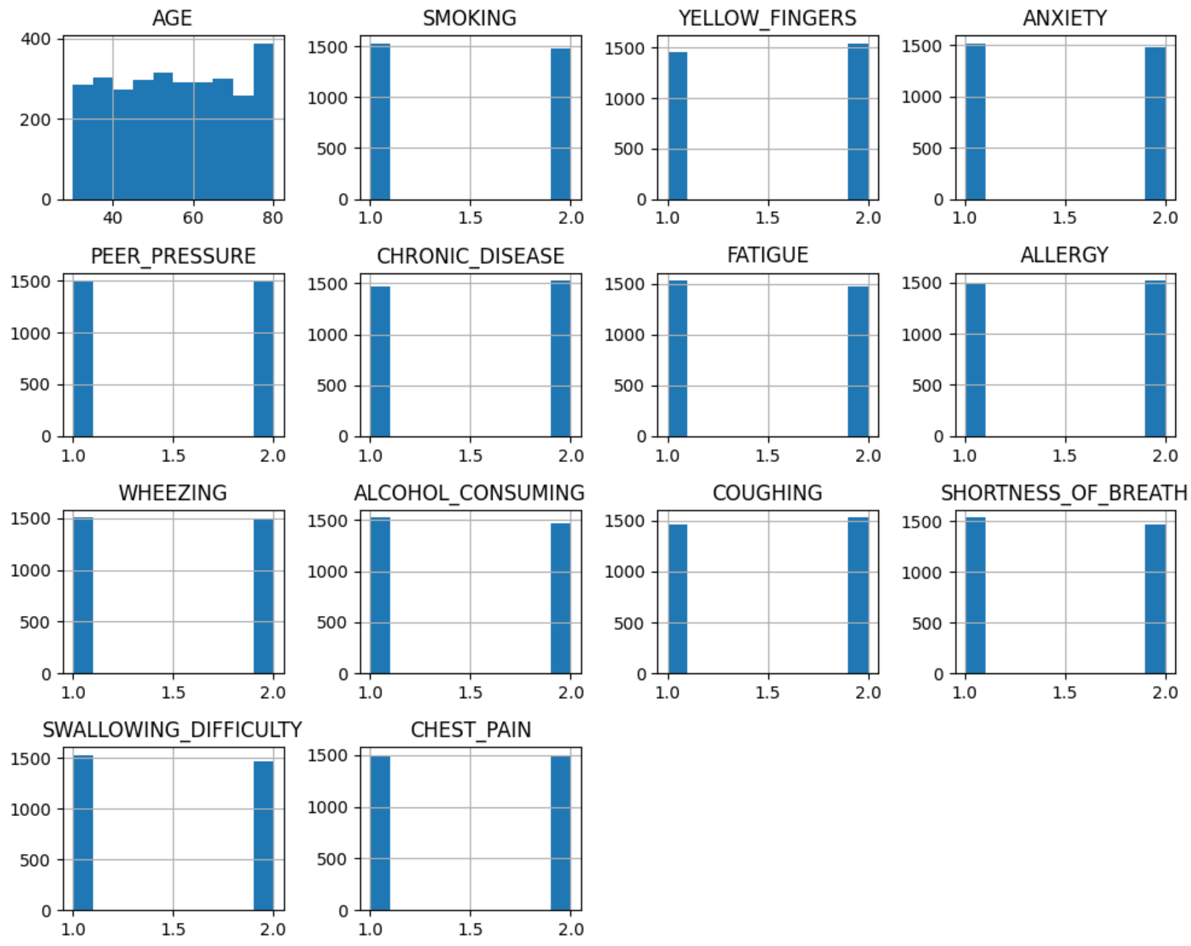
Histogram for all numeric columns



1. AGE

- Continuous variable.
- Most individuals are between **40 to 80 years old**.
- A slight peak is observed around **80**, suggesting many participants are in older age groups.

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2. SMOKING

- Binary (1 = No, 2 = Yes).
- Tall bar at **2**: Most individuals are **smokers**.
- Fewer at **1**, indicating non-smokers are less common.

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3. YELLOW_FINGERS

- Binary.
- Higher bar at **2**, meaning many have yellow fingers (a smoking-related symptom).

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4. ANXIETY

- Binary.
- Higher bar at **2**, indicating **many participants report anxiety**.

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5. PEER_PRESSURE

- Binary.
- Fairly balanced, but slightly more individuals experienced peer pressure (value 2).

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6. CHRONIC_DISEASE

- Binary.
- Slightly more individuals **do not have chronic diseases** (value 1).

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7. FATIGUE

- Binary.
- Higher count for **2**, showing fatigue is a **common symptom** in the dataset.

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8. ALLERGY

- Binary.
- Slightly more individuals **do not have allergies** (value 1), but still fairly balanced.

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9. WHEEZING

- Binary.
- Almost even distribution between **yes (2)** and **no (1)**.

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10. ALCOHOL_CONSUMING

- Binary.
- Slightly more people **consume alcohol** (value 2) than not.

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11. COUGHING

- Binary.
- Most individuals report **coughing** (value 2).

12. SHORTNESS_OF_BREATH

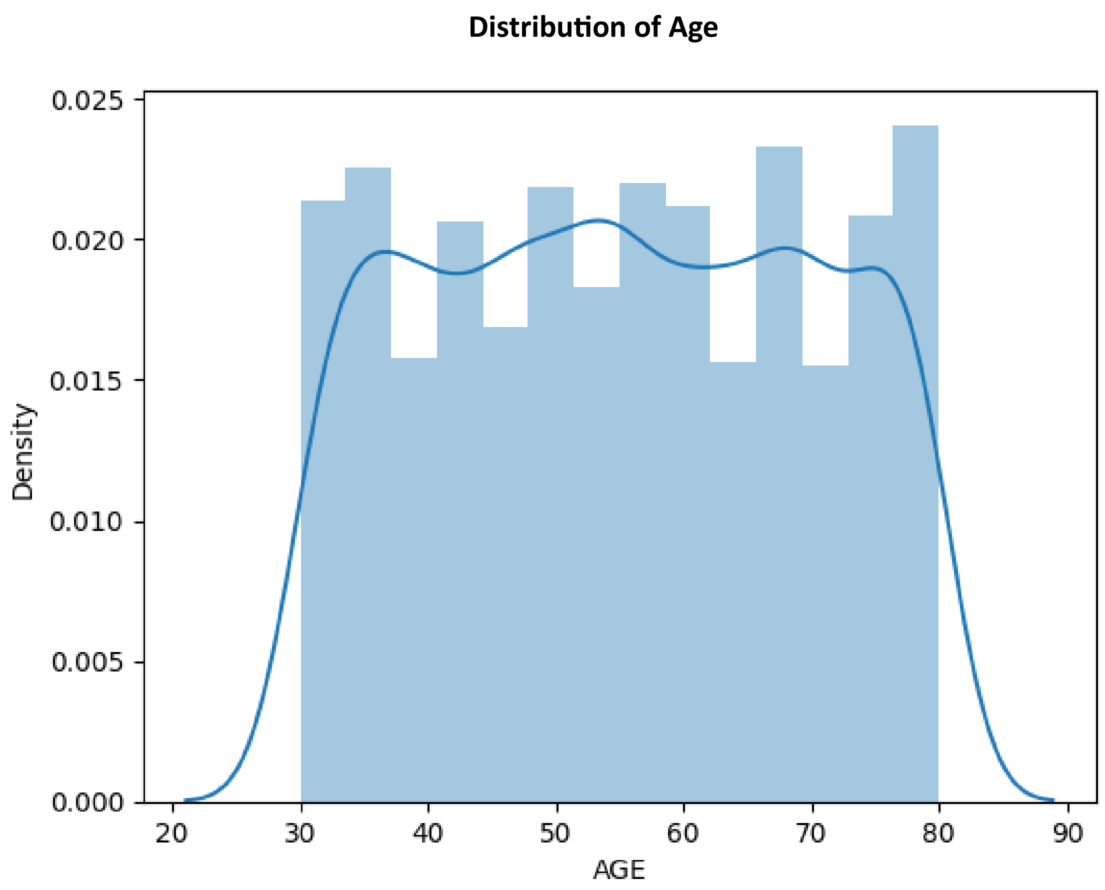
- Binary.
- More individuals experience **shortness of breath** (value 2).

13. SWALLOWING_DIFFICULTY

- Binary.
- Fairly balanced, but slightly more report **difficulty swallowing** (value 2).

14. CHEST_PAIN

- Binary.
- Very balanced distribution; chest pain is present in **about half** of the individuals.



Histogram (bars):

- Each bar represents a range of ages (like 30–40, 40–50, etc.).
- The **height** of the bar shows how many individuals fall into that age group.
- The bars are fairly **even in height**, meaning the **age distribution is uniform**—individuals are spread across all age groups from 30 to 80.

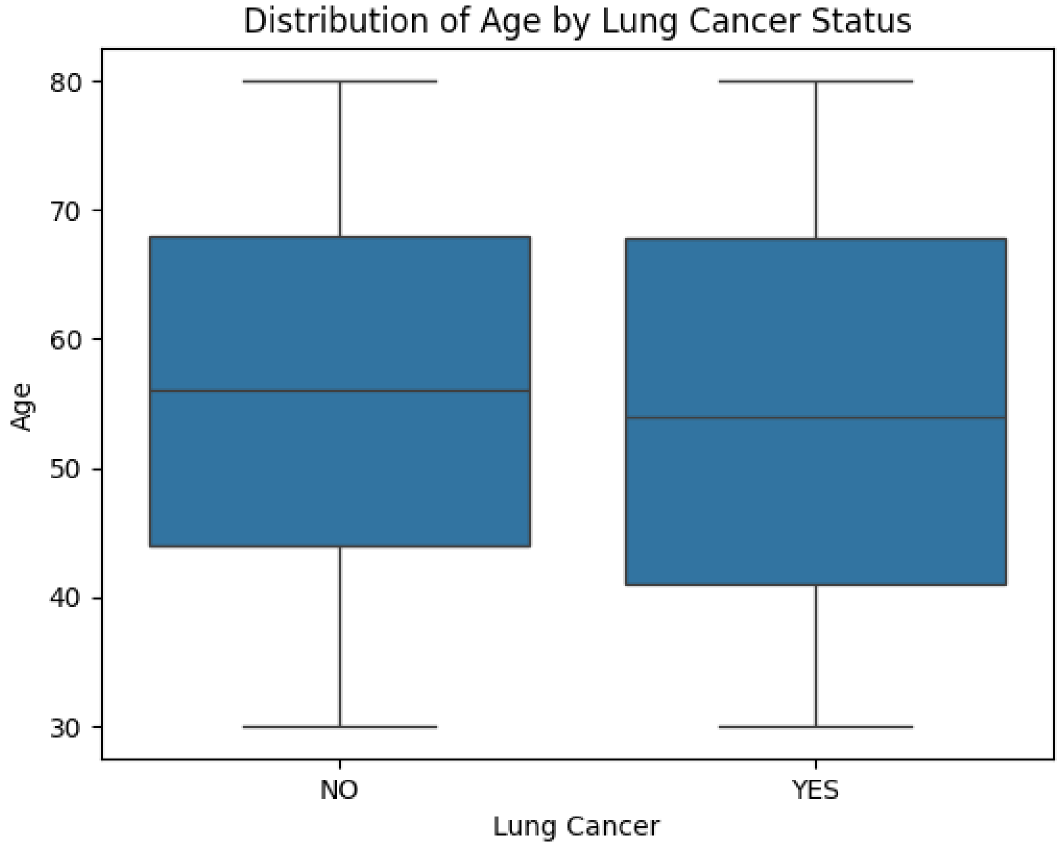
KDE Line (curve):

- The **blue line** represents a smooth estimate of the data distribution.
- It shows that the age values are **evenly distributed**, without sharp peaks.
- The curve is **flatter in the middle** and **tapers off at both ends**, indicating:
  - Few individuals are younger than **30** or older than **80**.
  - Most individuals fall between **30 and 80 years**.

Summary:

- The dataset includes a **balanced number of people across age groups**.
- The age distribution is **not skewed**—no particular age dominates.
- **Most common ages**: Between **30 to 80** years.

Box Plot



box plot showing the **distribution of Age** based on **Lung Cancer status** (Yes or No).

Detailed Explanation:

- The plot compares the **ages of people who have lung cancer (YES)** and those who **do not (NO)**.
- Each box shows the **middle 50%** of the data (from the 25th to 75th percentile).
- The **line inside the box** is the **median** (middle age).
- The **whiskers** extend to show the **range** of the data (excluding outliers).

Insights:

- The **age ranges** for both groups are similar (about **30 to 80 years**).
- The **median age** of those **with lung cancer** (YES) is slightly **lower** than those **without** lung cancer (NO).
- Both groups have **similar spread** (variation) in ages.

Summary:

- People with and without lung cancer are spread across similar age ranges.
- Slight difference in **median age**, but not drastically different.
- **Age alone may not be a strong differentiator** for lung cancer in this dataset.