1. Box Plot: City Development Index vs Job-Seeking Intent

Figure: Box plot comparing city_development_index across the target variable (1 = job-seeking, 0 = not seeking).

Explanation:

- This plot shows the distribution of city development indices for job seekers and non-seekers.
- The **median city index** is higher for individuals labeled as job seekers.
- **Insight:** People from better-developed cities (higher city index) are more likely to actively seek jobs in data science, possibly due to increased access to resources and opportunities.

---

2. Correlation Heatmap

Figure: Heatmap showing correlation between:

- city_development_index
- training_hours
- experience
- target (job-seeking intent)

Explanation:

- The heatmap uses color intensity to show the strength of correlation between variables.
- Moderate **positive correlation** between city development index and target.
- **Training hours** also show a positive association with job-seeking intent.
- **Insight:** This visualization identifies key influencing features for job-seeking behavior.

---

3. Histogram: Distribution of Experience Among Job Seekers

Figure: Histogram with KDE (Kernel Density Estimate) line for experience.

Explanation:

- Displays the frequency of job seekers by years of experience.
- Distribution skews toward the **lower end**, with many fresh graduates and mid-level professionals.
- **Insight:** A significant portion of DS job seekers are relatively new to the field, suggesting demand for entry-level roles.

---

4. Bar Chart: Education Level of Job Seekers

Figure: Horizontal bar chart showing counts by education_level.

Explanation:

- Dominated by **Graduate Bachelor** degree holders, followed by **Master's** and **High School**.
- **Insight:** Data science is pursued mainly by those with higher education backgrounds, showing it's a degree-driven field.

---

5. Bar Chart: Major Discipline of Job Seekers

Figure: Horizontal bar chart showing frequency of each major_discipline.

Explanation:

- **STEM fields** dominate the chart, far outnumbering others like Business and Arts.
- **Insight:** Reinforces the industry's heavy preference for technical and scientific educational backgrounds.

---

6. Histogram: Distribution of Training Hours

Figure: Histogram for training_hours, colored in light blue.

Explanation:

- Displays how much training candidates have undergone.
- Slight right-skew, indicating that most candidates received fewer hours of training, but a few had very high training durations.
- **Insight:** There's a wide variance in training, and intensive training is not very common.

---

7. Box Plot: Training Hours vs Job-Seeking Intent

Figure: Box plot comparing training_hours for job seekers (target=1) and non-seekers (target=0).

Explanation:

- Training **hours distribution** is similar whether someone is job seeking or not.
- Both groups have **lots of outliers**—some people trained a lot more than average.
- The median is **slightly lower for job seekers**, but not by much.

---

8. Combined Dashboard (2x2 Subplot Grid)

Contains the following four visualizations:

1. City Development Index vs Job Seeking (Box Plot)
2. Education Level of Job Seekers (Bar Chart)
3. Major Discipline of Job Seekers (Bar Chart)

4. Training Hours vs Job Seeking (Box Plot)

Explanation:

- This summary view offers a compact overview of the main influencing factors.
- Supports cross-comparison and enhances visual storytelling.