Data Science Salary Trends: Global Analysis
Exploring Salary Trends and Factors in Data Science

IST 719: Information Visualization | Name: Mugdha Karodkar

The Motivation

This analysis is valuable for aspiring data science professionals, students, and industry leaders aiming to understand the key factors influencing compensation. It provides actionable insights for career planning, salary benchmarking, and developing competitive strategies in the data science field. By bridging academic research with industry trends, this study highlights the evolving dynamics of data science roles in a global job market.

Leading Question

How does the interaction between experience level and geographical region influence data science salaries, and which factors contribute most to the observed differences in compensation across markets?
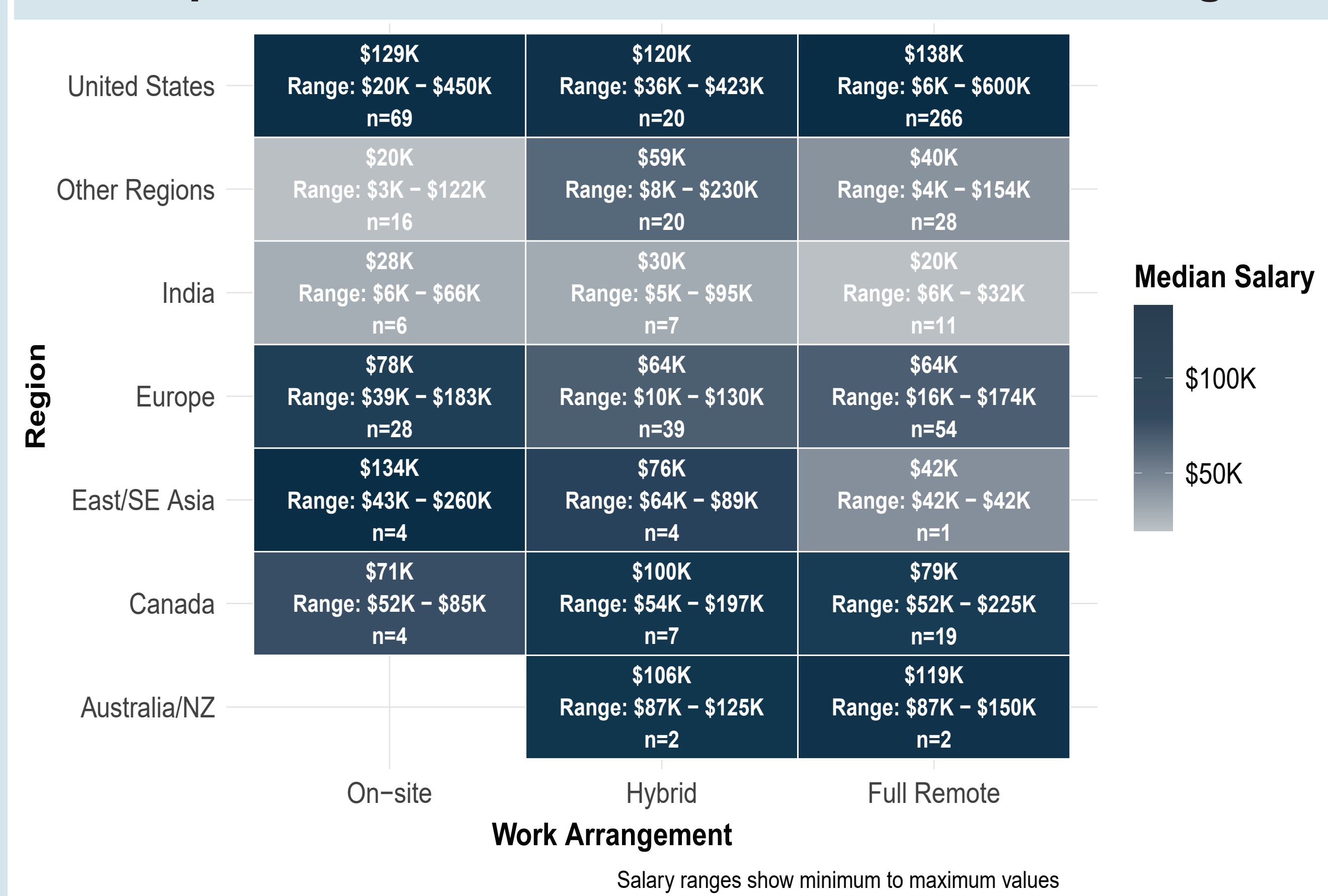
Data Description

The dataset, sourced from Kaggle, consists of **607 observations** and **12 attributes** covering job **titles(49)**, salaries, **company locations(27)**, and remote work setups for data professionals worldwide. Cleaning and transformations were performed to standardize experience levels, company sizes, and remote work categories, job titles,company locations while deriving new insights. Data spans the years 2020-2022, reflecting recent trends.

Story

The analysis highlights how experience level, company size, and remote work shape data science salaries globally. Senior professionals in large U.S. firms earn the highest, while entry-level roles in smaller companies see lower pay. The data reveals critical patterns in regional pay gaps, remote work benefits, and salary trends, empowering professionals and organizations to make informed career and hiring decisions.

Leading question: How Experience Level & Geography Influence Data Science Salaries?

Violin plot with median annotations across regions

Data source: Kaggle DS Salaries Dataset

How Company Size Influences Salaries Across Regions?

Salary Distribution by Company Size and Region
Lollipop plot showing median salaries with annotations for counts

Company Size: Small, Medium, Large

Numbers indicate median salary and count of positions

The Impact of Remote Work on Salaries Across Regions

Salary ranges show minimum to maximum values

Which Job Categories Earn the Most Across Regions?

Data Science Job Categories by Region
Median salaries with interquartile range for each job category

Region: Australia/NZ, East/SE Asia, India, United States, Canada, Europe, Other Regions
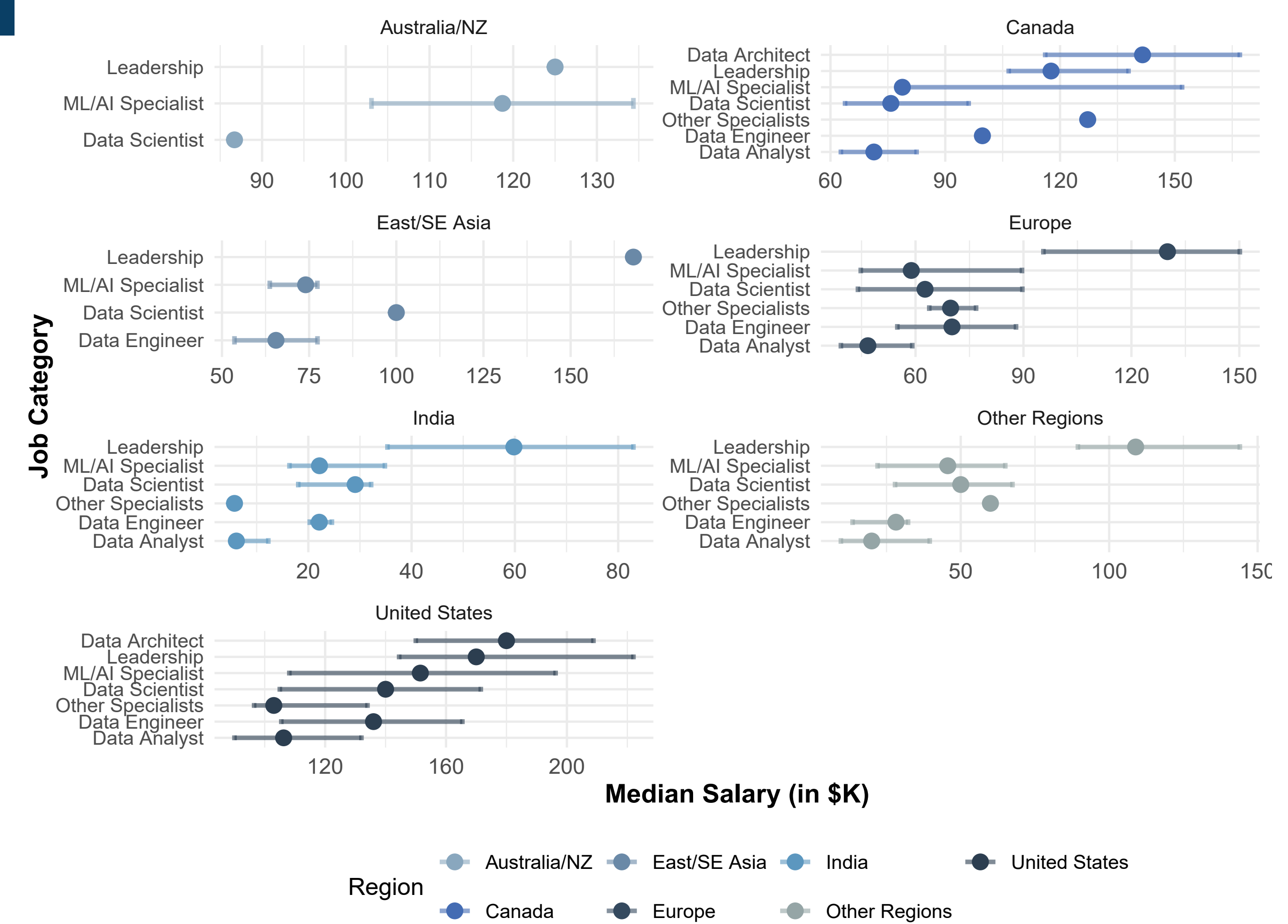
How Have Salaries Changed Over Time Across Regions?

Median annual salary trends by region (2020-2022)

Region: Australia/NZ, Canada, East/SE Asia, Europe, India, Other Regions, United States
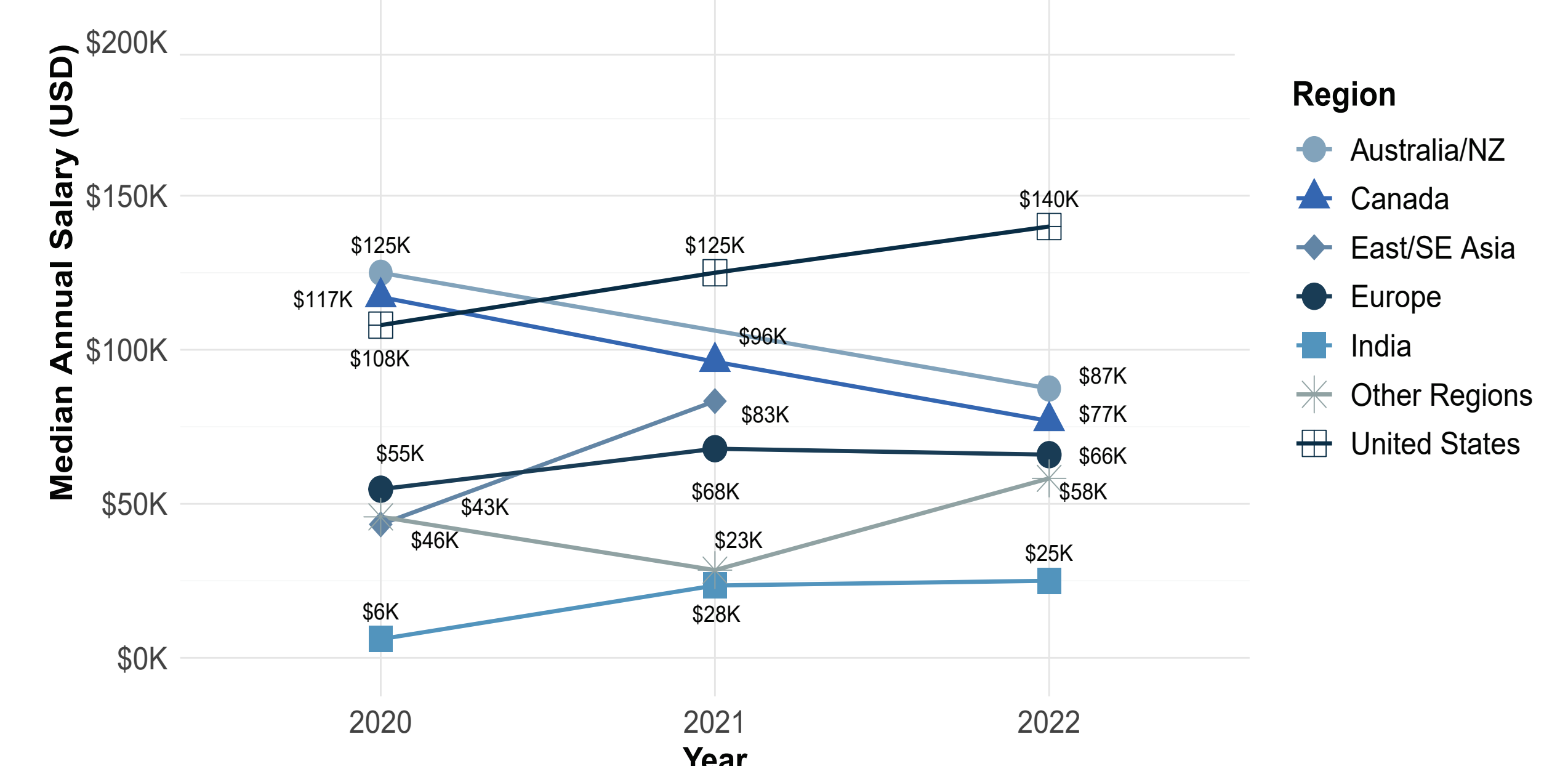
Experience Level Distribution by Region

Proportion of experience levels across markets

experience_level: Entry, Mid, Senior, Executive
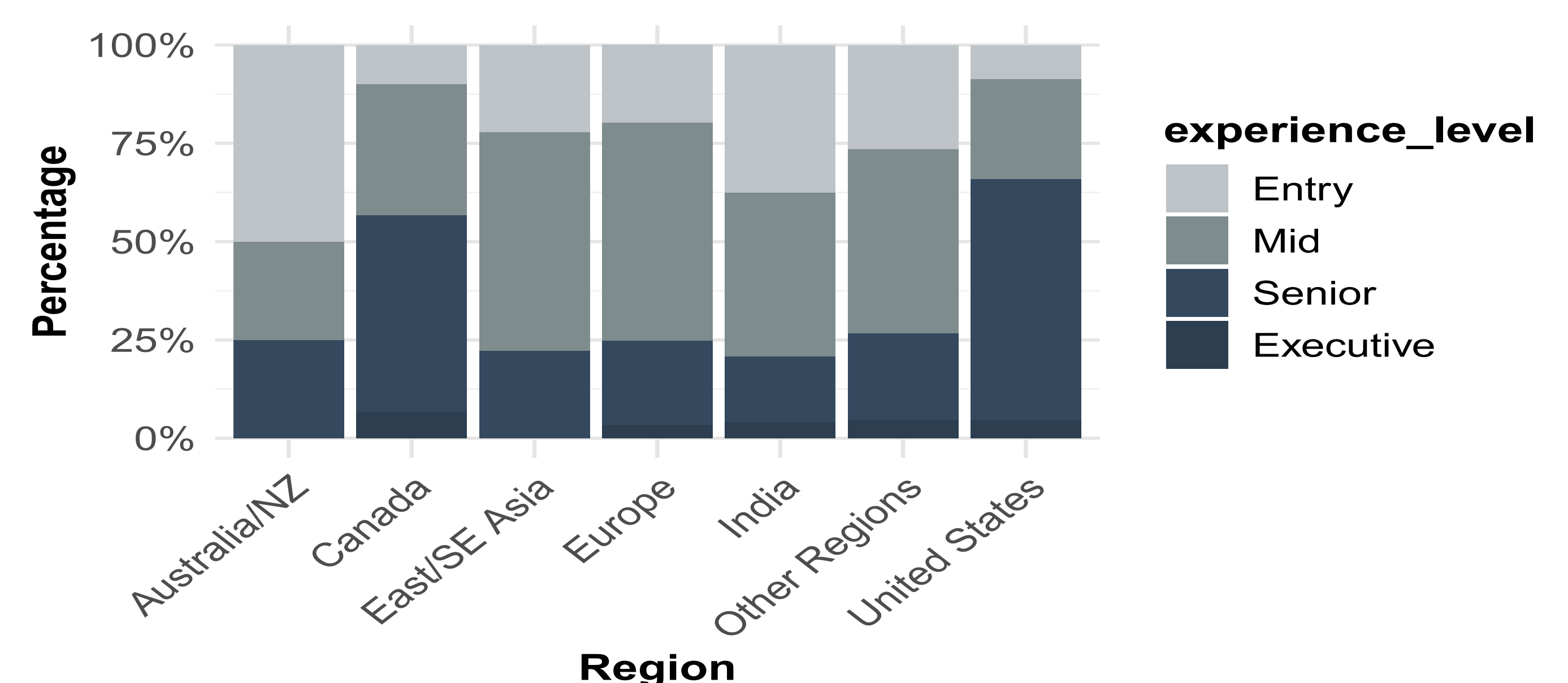
Sources
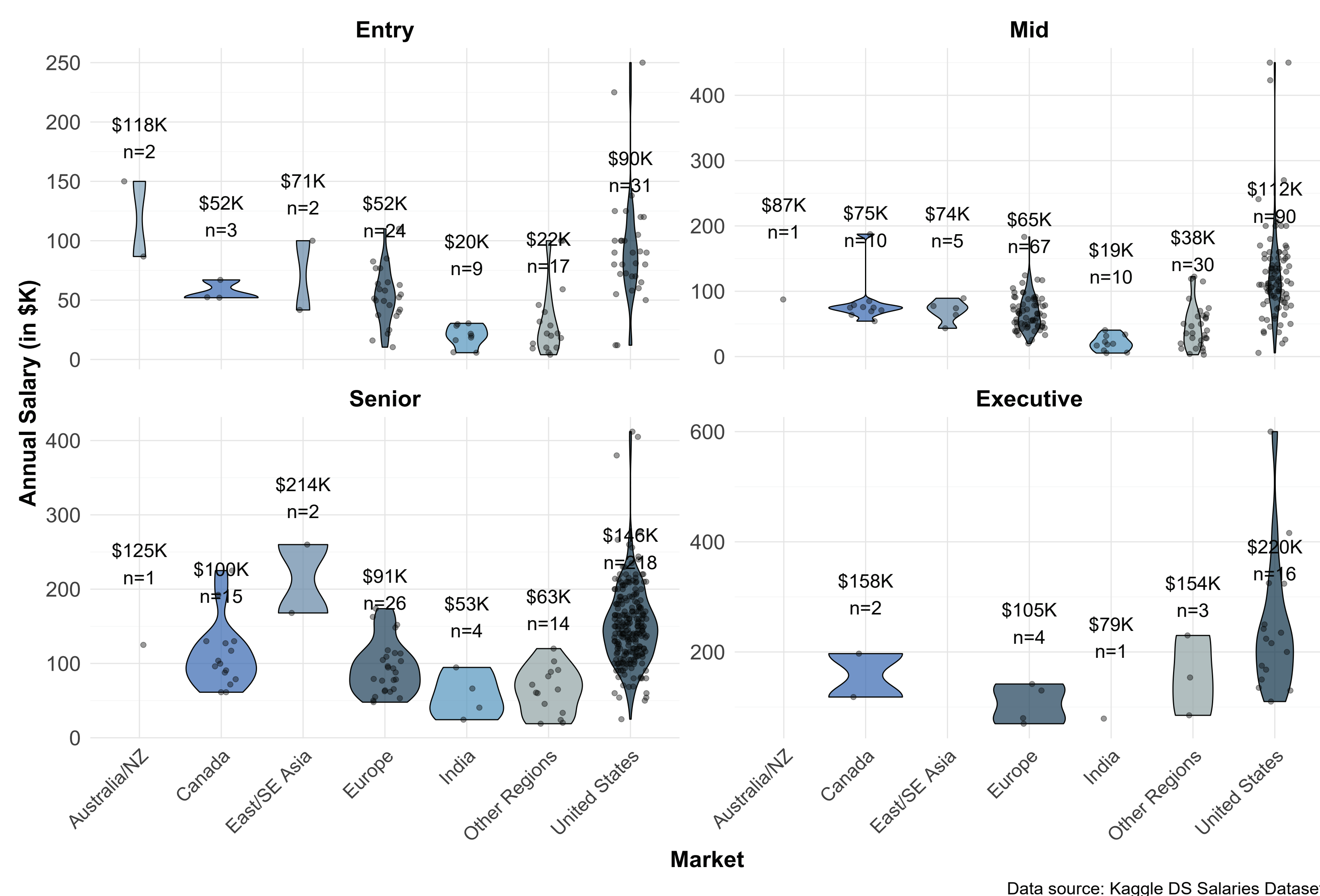**Data**: https://www.kaggle.com/datasets/ruchi798/data-science-job-salaries
Tools and Packages: R (ggplot2, tidyverse, ggridges, gridExtra, patchwork)
Color Palette: Professional blues and grays for clarity and aesthetic cohesion.