Trekking in Nepal

Data Visualizations for exploring trekking regions, difficulty levels, cost, altitude, and accommodation trends across Nepal.
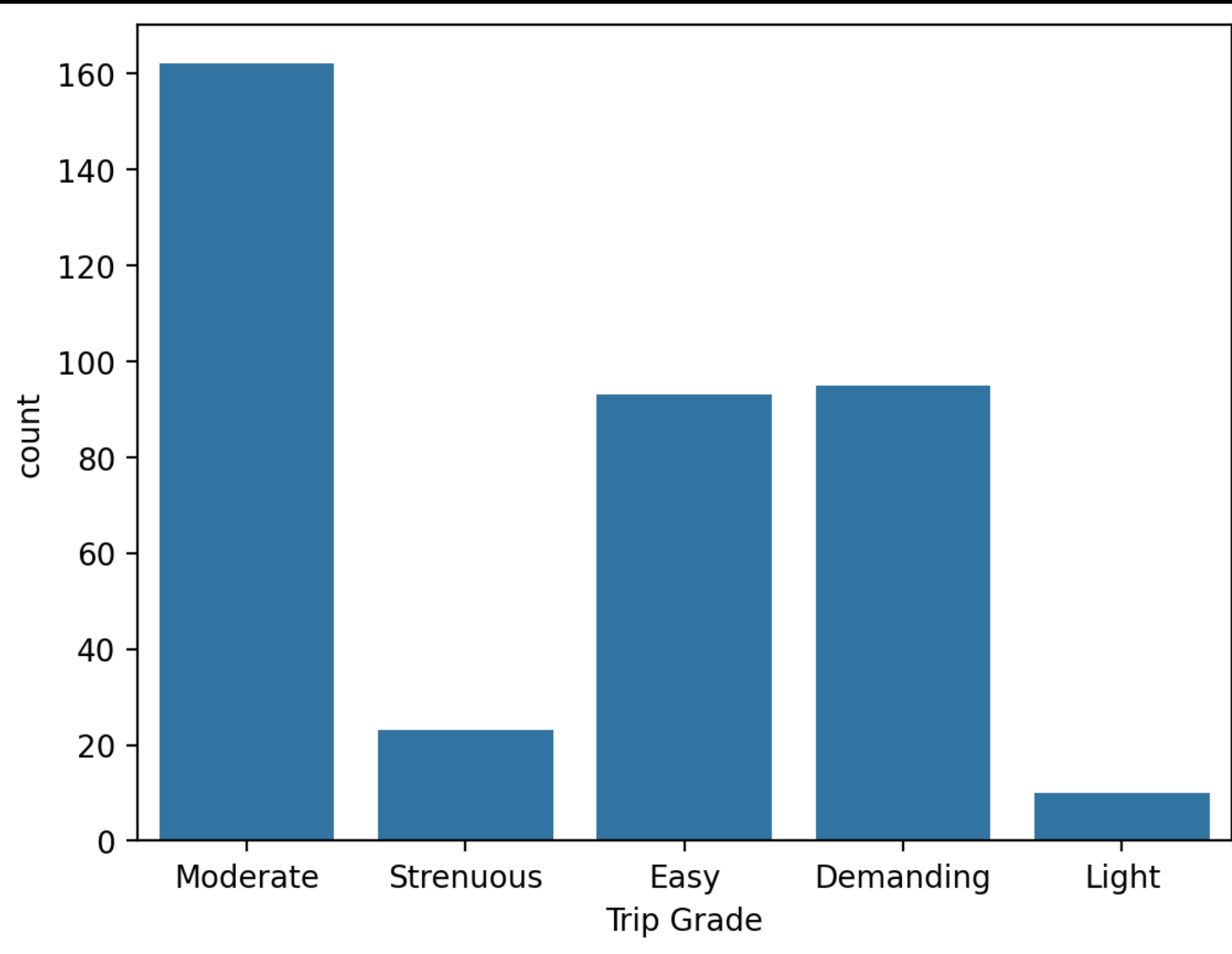
Yogesh Karki

Introduction

This project explores trekking routes in Nepal using data visualization and interactive analytics. The dataset was cleaned, standardized, and analyzed to uncover patterns in trek difficulty, duration, cost, accommodation types, and altitude.

Multiple visualizations were created to answer analytical questions and identify key trends. An interactive dashboard was developed using Streamlit, allowing users to filter treks dynamically and explore insights in real time.

Live Dashboard: https://trekking-nepal-dashboardgit-7w2eurvgvcuc5ngbvvy2c9.streamlit.app/

GitHub Repository: https://github.com/yogesh-karki/trekking-nepal-dashboard.git
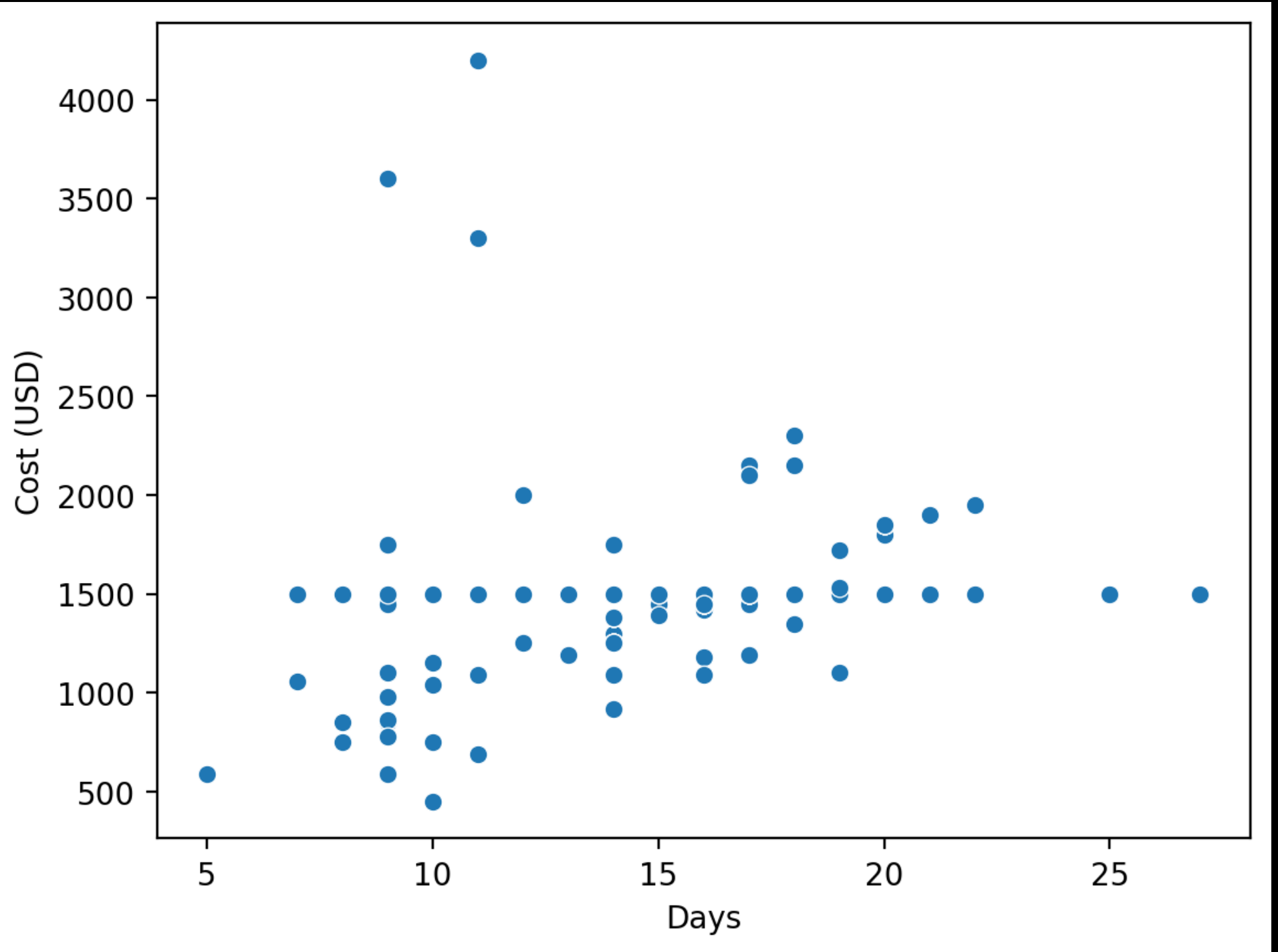
Trek Difficulty Distribution

What the Data Shows

- Moderate-grade treks dominate the market, accounting for nearly half of all offerings
- Easy treks provide accessible entry points for beginners and short vacation windows
- High-difficulty routes are premium products with limited availability
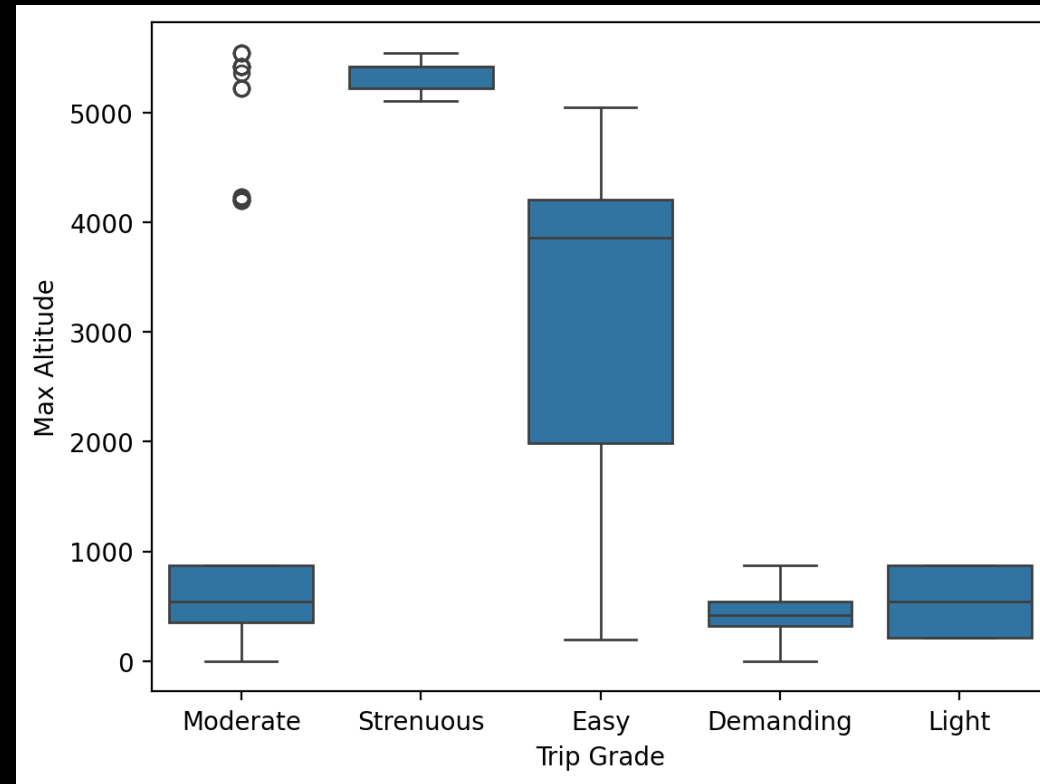
Cost Distribution Analysis

From the cost versus duration data, it is clear that there is no consistent correlation between trek length and price, as costs fluctuate significantly regardless of the number of days.

The wide range in pricing—with certain medium-length treks costing far more than much longer ones—indicates that cost is driven largely by factors other than duration, such as trek difficulty, required permits, and logistical support.

Altitude vs Trip Grade

Altitude Gain
Every 1,000m increase demands specialized planning and risk management

Safety Protocols
Extended acclimatization days and medical support drive up operational costs

Expert Guidance
High-altitude routes require certified guides with specialized training and equipment

Key Insights Summary

Diverse Product Range

Nepal offers treks for all skill levels, from beginner-friendly trails to extreme-altitude expeditions—ensuring market coverage across segments.

Moderate Treks Dominate

The moderate difficulty category represents the largest segment, balancing challenge with accessibility for mainstream adventure tourism.

Altitude & Duration Drive Pricing

Maximum altitude and trip duration are the strongest cost predictors, directly influencing logistics complexity and resource requirements.

Market Structure

The dataset reveals both mass tourism demand (moderate, mid-price treks) and elite adventure segments (premium, high-difficulty routes).

Conclusions

Global Trekking Hub

Nepal's geographic diversity and cultural infrastructure maintain its position as a premier destination for adventure travel worldwide.

Data-Informed Planning

Visual analytics help tourists match their fitness, budget, and schedule constraints with appropriate trek options—reducing mismatch and disappointment.

Pricing Optimization

Operators can refine pricing strategies using altitude and duration as primary variables, ensuring competitive positioning while maintaining profitability.

Enhanced Decision-Making

Comprehensive visualizations empower stakeholders—from tour designers to individual travelers—to make confident, informed choices about Nepal treks.