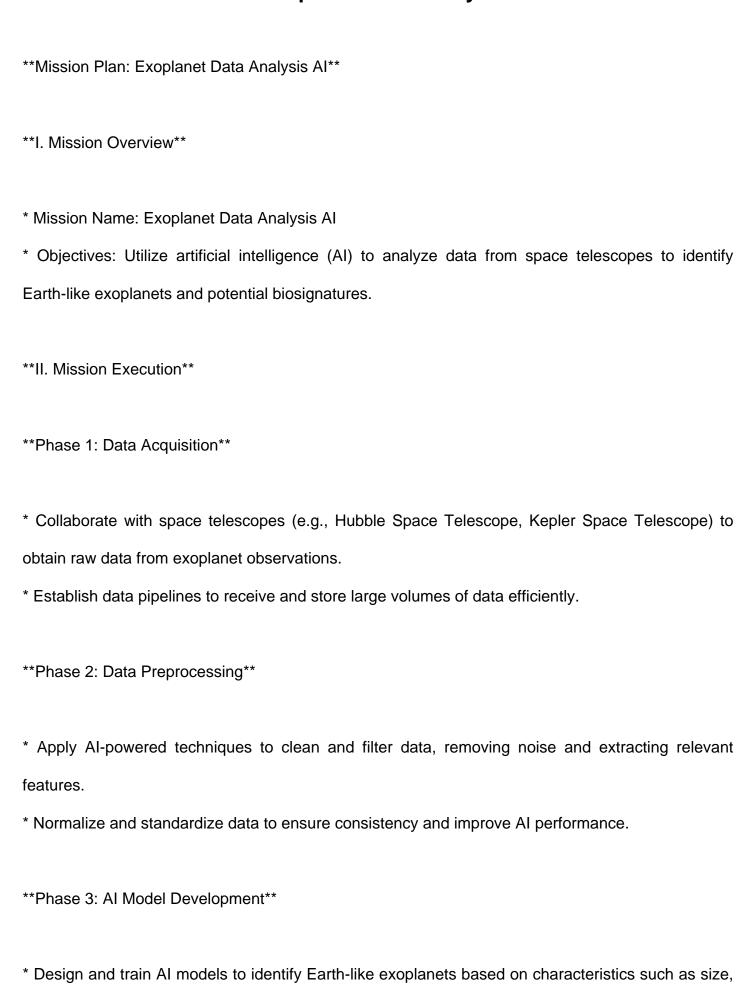
Exoplanet Data Analysis Al

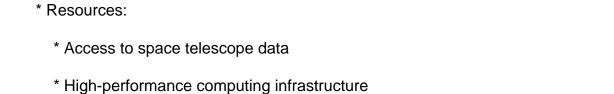


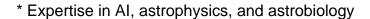
mass, and atmosphere composition.

* Develop specialized algorithms to detect potential biosignatures, such as the presence of water, oxygen, or organic molecules.

Phase 4: Data Analysis

- * Deploy Al models to process the preprocessed data and identify candidate exoplanets.
- * Perform statistical analysis on AI outputs to validate results and assess the likelihood of habitability.
- * Cross-validate findings using observations from multiple telescopes to increase confidence.
- **Phase 5: Biosignature Investigation**
- * Analyze follow-up observations of identified candidates using spectroscopic techniques to confirm the presence of potential biosignatures.
- * Investigate the temporal and spatial distribution of biosignatures to infer planetary processes and the potential for extraterrestrial life.
- **III. Mission Objectives**
- * Quantify the prevalence of Earth-like exoplanets within the target distance range.
- * Identify specific exoplanets with high potential for supporting life.
- * Expand our understanding of exoplanet characteristics and their relationship to habitability.
- * Provide valuable data for future astrobiology missions and the search for extraterrestrial life.
- **IV. Resources and Timeline**





* Timeline:

- * 5-year mission duration (estimated)
- * Ongoing data acquisition and analysis
- **V. Impact**
- * Advance our knowledge of exoplanets and their potential for life.
- * Contribute to the scientific foundation for the search for extraterrestrial intelligence (SETI).
- * Inspire public interest in space exploration and scientific research.