Artificial Intelligence Radiomics Pipeline

Input: Liver CT Scans → **Radiomic Feature Computation** (Intensity Statistics, 3D Shape, Gray Level Spatial Relationships) → **Feature Selection**

$$V(x_i) = \frac{1}{1 - R_i^2}$$
$$h(t) = h_0(t)e^{\beta_1 x_1 + \beta_2 x_2 + \ldots \beta_n x_n}$$

→ **Random Survival Forest Modelling** → **Output: Ensemble Final Survival Model**
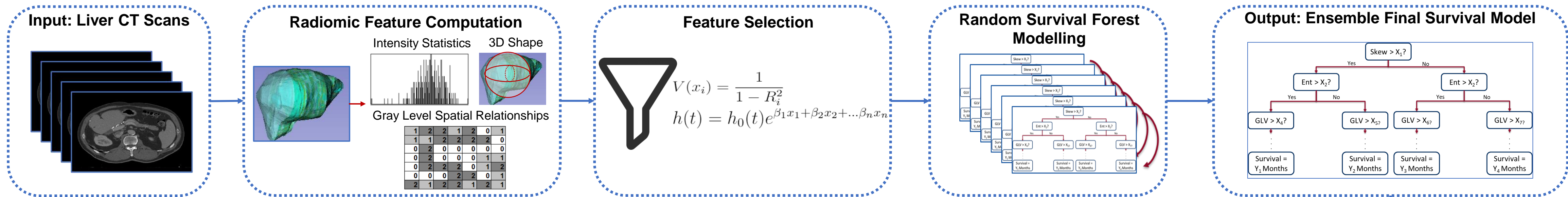
Cross-Validation Testing: Predicted Survival Compared to Actual Survival

Radiomics Data Only (Best K-Fold)

Month	0	2	4	6	8	10	12	14	16	18	20	22	24
Number At Risk	21	20	18	17	16	14	14	12	11	11	9	9	9

Radiomics Data Only (Worst K-Fold)

Month	0	2	4	6	8	10	12	14	16	18	20	22	24
Number At Risk	21	18	16	13	11	11	11	9	9	7	7	7	7

Treatment Data Only (Best K-Fold)

Month	0	2	4	6	8	10	12	14	16	18	20	22	24
Number At Risk	21	20	17	15	13	13	13	13	11	11	10	10	10

Treatment Data Only (Worst K-Fold)

Month	0	2	4	6	8	10	12	14	16	18	20	22	24
Number At Risk	21	21	19	19	16	16	11	10	6	6	6	6	6

Legend: Predicted Survival, Actual Survival