**Non PCA:**

Cross-Validation Repeat: 1/10

Accuracy: 0.7629

Precision: 0.7623

Recall: 0.7629

F1 Score: 0.7608

Log Loss: 1.5676

Accuracy: 0.7704

Precision: 0.7699

Recall: 0.7704

F1 Score: 0.7686

Log Loss: 1.5646

Accuracy: 0.7663

Precision: 0.7657

Recall: 0.7663

F1 Score: 0.7645

Log Loss: 1.5543

Accuracy: 0.7666

Precision: 0.7662

Recall: 0.7666

F1 Score: 0.7646

Log Loss: 1.5787

Accuracy: 0.7669

Precision: 0.7664

Recall: 0.7669

F1 Score: 0.7649

Log Loss: 1.5603

Average Metrics for Repetition 1/10:

Accuracy: 0.7666

Precision: 0.7661

Recall: 0.7666

F1\_score: 0.7647

Log\_loss: 1.5651

Cross-Validation Repeat: 2/10

Accuracy: 0.7662

Precision: 0.7658

Recall: 0.7662

F1 Score: 0.7644

Log Loss: 1.5480

Accuracy: 0.7646

Precision: 0.7637

Recall: 0.7646

F1 Score: 0.7626

Log Loss: 1.5553

Accuracy: 0.7669

Precision: 0.7663

Recall: 0.7669

F1 Score: 0.7651

Log Loss: 1.5651

Accuracy: 0.7717

Precision: 0.7710

Recall: 0.7717

F1 Score: 0.7697

Log Loss: 1.5869

Accuracy: 0.7666

Precision: 0.7667

Recall: 0.7666

F1 Score: 0.7644

Log Loss: 1.5960

Average Metrics for Repetition 2/10:

Accuracy: 0.7672

Precision: 0.7667

Recall: 0.7672

F1\_score: 0.7653

Log\_loss: 1.5702

Cross-Validation Repeat: 3/10

Accuracy: 0.7643

Precision: 0.7640

Recall: 0.7643

F1 Score: 0.7623

Log Loss: 1.5536

Accuracy: 0.7707

Precision: 0.7702

Recall: 0.7707

F1 Score: 0.7688

Log Loss: 1.5694

Accuracy: 0.7702

Precision: 0.7697

Recall: 0.7702

F1 Score: 0.7682

Log Loss: 1.5729

Accuracy: 0.7644

Precision: 0.7639

Recall: 0.7644

F1 Score: 0.7625

Log Loss: 1.5632

Accuracy: 0.7670

Precision: 0.7662

Recall: 0.7670

F1 Score: 0.7652

Log Loss: 1.5554

Average Metrics for Repetition 3/10:

Accuracy: 0.7673

Precision: 0.7668

Recall: 0.7673

F1\_score: 0.7654

Log\_loss: 1.5629

Cross-Validation Repeat: 4/10

Accuracy: 0.7683

Precision: 0.7677

Recall: 0.7683

F1 Score: 0.7665

Log Loss: 1.5612

Accuracy: 0.7660

Precision: 0.7658

Recall: 0.7660

F1 Score: 0.7639

Log Loss: 1.5405

Accuracy: 0.7743

Precision: 0.7739

Recall: 0.7743

F1 Score: 0.7724

Log Loss: 1.5716

Accuracy: 0.7643

Precision: 0.7636

Recall: 0.7643

F1 Score: 0.7622

Log Loss: 1.5757

Accuracy: 0.7653

Precision: 0.7647

Recall: 0.7653

F1 Score: 0.7636

Log Loss: 1.5642

Average Metrics for Repetition 4/10:

Accuracy: 0.7677

Precision: 0.7671

Recall: 0.7677

F1\_score: 0.7657

Log\_loss: 1.5626

Cross-Validation Repeat: 5/10

Accuracy: 0.7685

Precision: 0.7684

Recall: 0.7685

F1 Score: 0.7666

Log Loss: 1.5610

Accuracy: 0.7677

Precision: 0.7673

Recall: 0.7677

F1 Score: 0.7659

Log Loss: 1.5716

Accuracy: 0.7675

Precision: 0.7671

Recall: 0.7675

F1 Score: 0.7655

Log Loss: 1.5679

Accuracy: 0.7644

Precision: 0.7636

Recall: 0.7644

F1 Score: 0.7625

Log Loss: 1.5705

Accuracy: 0.7680

Precision: 0.7673

Recall: 0.7680

F1 Score: 0.7661

Log Loss: 1.5536

Average Metrics for Repetition 5/10:

Accuracy: 0.7672

Precision: 0.7667

Recall: 0.7672

F1\_score: 0.7653

Log\_loss: 1.5649

Cross-Validation Repeat: 6/10

Accuracy: 0.7716

Precision: 0.7712

Recall: 0.7716

F1 Score: 0.7696

Log Loss: 1.5467

Accuracy: 0.7646

Precision: 0.7640

Recall: 0.7646

F1 Score: 0.7624

Log Loss: 1.5496

Accuracy: 0.7647

Precision: 0.7644

Recall: 0.7647

F1 Score: 0.7627

Log Loss: 1.5583

Accuracy: 0.7647

Precision: 0.7641

Recall: 0.7647

F1 Score: 0.7627

Log Loss: 1.5852

Accuracy: 0.7693

Precision: 0.7685

Recall: 0.7693

F1 Score: 0.7677

Log Loss: 1.5906

Average Metrics for Repetition 6/10:

Accuracy: 0.7670

Precision: 0.7665

Recall: 0.7670

F1\_score: 0.7650

Log\_loss: 1.5661

Cross-Validation Repeat: 7/10

Accuracy: 0.7653

Precision: 0.7650

Recall: 0.7653

F1 Score: 0.7629

Log Loss: 1.5782

Accuracy: 0.7676

Precision: 0.7668

Recall: 0.7676

F1 Score: 0.7658

Log Loss: 1.5515

Accuracy: 0.7667

Precision: 0.7663

Recall: 0.7667

F1 Score: 0.7648

Log Loss: 1.5714

Accuracy: 0.7689

Precision: 0.7683

Recall: 0.7689

F1 Score: 0.7672

Log Loss: 1.5593

Accuracy: 0.7678

Precision: 0.7673

Recall: 0.7678

F1 Score: 0.7658

Log Loss: 1.5767

Average Metrics for Repetition 7/10:

Accuracy: 0.7673

Precision: 0.7668

Recall: 0.7673

F1\_score: 0.7653

Log\_loss: 1.5674

Cross-Validation Repeat: 8/10

Accuracy: 0.7711

Precision: 0.7701

Recall: 0.7711

F1 Score: 0.7692

Log Loss: 1.5556

Accuracy: 0.7692

Precision: 0.7691

Recall: 0.7692

F1 Score: 0.7671

Log Loss: 1.5679

Accuracy: 0.7686

Precision: 0.7680

Recall: 0.7686

F1 Score: 0.7667

Log Loss: 1.5841

Accuracy: 0.7591

Precision: 0.7587

Recall: 0.7591

F1 Score: 0.7571

Log Loss: 1.5674

Accuracy: 0.7657

Precision: 0.7652

Recall: 0.7657

F1 Score: 0.7639

Log Loss: 1.5482

Average Metrics for Repetition 8/10:

Accuracy: 0.7667

Precision: 0.7662

Recall: 0.7667

F1\_score: 0.7648

Log\_loss: 1.5647

Cross-Validation Repeat: 9/10

Accuracy: 0.7741

Precision: 0.7738

Recall: 0.7741

F1 Score: 0.7720

Log Loss: 1.5500

Accuracy: 0.7678

Precision: 0.7675

Recall: 0.7678

F1 Score: 0.7659

Log Loss: 1.5693

Accuracy: 0.7627

Precision: 0.7622

Recall: 0.7627

F1 Score: 0.7609

Log Loss: 1.5638

Accuracy: 0.7647

Precision: 0.7636

Recall: 0.7647

F1 Score: 0.7629

Log Loss: 1.5513

Accuracy: 0.7644

Precision: 0.7642

Recall: 0.7644

F1 Score: 0.7623

Log Loss: 1.5446

Average Metrics for Repetition 9/10:

Accuracy: 0.7667

Precision: 0.7663

Recall: 0.7667

F1\_score: 0.7648

Log\_loss: 1.5558

Cross-Validation Repeat: 10/10

Accuracy: 0.7705

Precision: 0.7700

Recall: 0.7705

F1 Score: 0.7686

Log Loss: 1.5789

Accuracy: 0.7721

Precision: 0.7715

Recall: 0.7721

F1 Score: 0.7702

Log Loss: 1.5742

Accuracy: 0.7663

Precision: 0.7658

Recall: 0.7663

F1 Score: 0.7643

Log Loss: 1.5547

Accuracy: 0.7623

Precision: 0.7618

Recall: 0.7623

F1 Score: 0.7604

Log Loss: 1.5310

Accuracy: 0.7646

Precision: 0.7640

Recall: 0.7646

F1 Score: 0.7626

Log Loss: 1.5794

Average Metrics for Repetition 10/10:

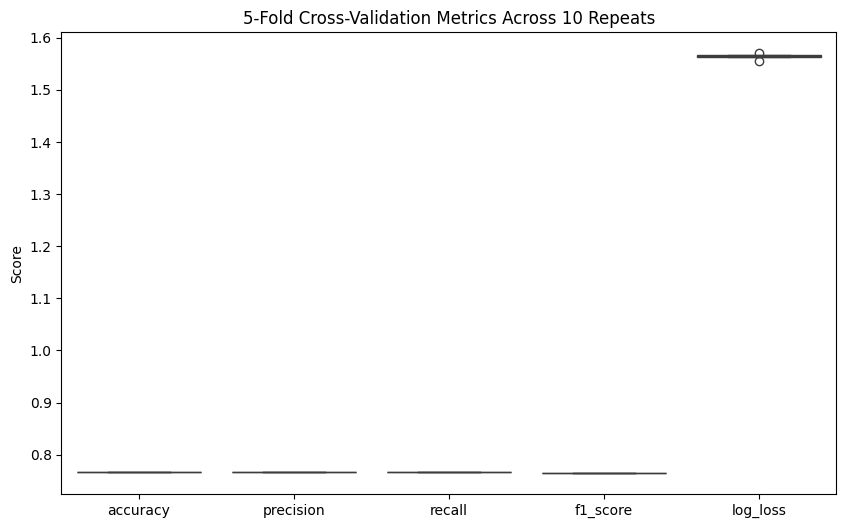
Accuracy: 0.7671

Precision: 0.7666

Recall: 0.7671

F1\_score: 0.7652

Log\_loss: 1.5636



**With PCA:**

Cross-Validation Repeat: 1/10

y\_pred\_df Animal.ID: [ 3 6 9 ... 109790 109792 109795]

y\_test\_df Animal.ID: [ 3 6 9 ... 109790 109792 109795]

Accuracy: 0.7243

Precision: 0.7233

Recall: 0.7243

F1 Score: 0.7204

Log Loss: 1.2948

y\_pred\_df Animal.ID: [ 1 8 11 ... 109779 109781 109794]

y\_test\_df Animal.ID: [ 1 8 11 ... 109779 109781 109794]

Accuracy: 0.7350

Precision: 0.7346

Recall: 0.7350

F1 Score: 0.7315

Log Loss: 1.2918

y\_pred\_df Animal.ID: [ 0 4 5 ... 109787 109789 109791]

y\_test\_df Animal.ID: [ 0 4 5 ... 109787 109789 109791]

Accuracy: 0.7299

Precision: 0.7292

Recall: 0.7299

F1 Score: 0.7265

Log Loss: 1.2922

y\_pred\_df Animal.ID: [ 7 16 19 ... 109785 109786 109793]

y\_test\_df Animal.ID: [ 7 16 19 ... 109785 109786 109793]

Accuracy: 0.7304

Precision: 0.7298

Recall: 0.7304

F1 Score: 0.7268

Log Loss: 1.2998

y\_pred\_df Animal.ID: [ 2 10 13 ... 109770 109771 109774]

y\_test\_df Animal.ID: [ 2 10 13 ... 109770 109771 109774]

Accuracy: 0.7289

Precision: 0.7281

Recall: 0.7289

F1 Score: 0.7254

Log Loss: 1.2971

Average Metrics for Repetition 1/10:

Accuracy: 0.7297

Precision: 0.7290

Recall: 0.7297

F1\_score: 0.7261

Log\_loss: 1.2951

Cross-Validation Repeat: 2/10

y\_pred\_df Animal.ID: [ 1 4 6 ... 109786 109789 109791]

y\_test\_df Animal.ID: [ 1 4 6 ... 109786 109789 109791]

Accuracy: 0.7270

Precision: 0.7265

Recall: 0.7270

F1 Score: 0.7237

Log Loss: 1.2834

y\_pred\_df Animal.ID: [ 17 20 23 ... 109782 109783 109792]

y\_test\_df Animal.ID: [ 17 20 23 ... 109782 109783 109792]

Accuracy: 0.7260

Precision: 0.7249

Recall: 0.7260

F1 Score: 0.7223

Log Loss: 1.2777

y\_pred\_df Animal.ID: [ 3 13 14 ... 109779 109785 109787]

y\_test\_df Animal.ID: [ 3 13 14 ... 109779 109785 109787]

Accuracy: 0.7300

Precision: 0.7291

Recall: 0.7300

F1 Score: 0.7265

Log Loss: 1.3068

y\_pred\_df Animal.ID: [ 0 2 5 ... 109775 109778 109793]

y\_test\_df Animal.ID: [ 0 2 5 ... 109775 109778 109793]

Accuracy: 0.7349

Precision: 0.7340

Recall: 0.7349

F1 Score: 0.7313

Log Loss: 1.3003

y\_pred\_df Animal.ID: [ 7 9 15 ... 109790 109794 109795]

y\_test\_df Animal.ID: [ 7 9 15 ... 109790 109794 109795]

Accuracy: 0.7320

Precision: 0.7321

Recall: 0.7320

F1 Score: 0.7284

Log Loss: 1.2994

Average Metrics for Repetition 2/10:

Accuracy: 0.7300

Precision: 0.7293

Recall: 0.7300

F1\_score: 0.7264

Log\_loss: 1.2935

Cross-Validation Repeat: 3/10

y\_pred\_df Animal.ID: [ 7 10 17 ... 109787 109789 109792]

y\_test\_df Animal.ID: [ 7 10 17 ... 109787 109789 109792]

Accuracy: 0.7270

Precision: 0.7270

Recall: 0.7270

F1 Score: 0.7229

Log Loss: 1.2935

y\_pred\_df Animal.ID: [ 0 1 4 ... 109776 109779 109794]

y\_test\_df Animal.ID: [ 0 1 4 ... 109776 109779 109794]

Accuracy: 0.7332

Precision: 0.7326

Recall: 0.7332

F1 Score: 0.7296

Log Loss: 1.2976

y\_pred\_df Animal.ID: [ 2 11 13 ... 109786 109788 109793]

y\_test\_df Animal.ID: [ 2 11 13 ... 109786 109788 109793]

Accuracy: 0.7326

Precision: 0.7319

Recall: 0.7326

F1 Score: 0.7293

Log Loss: 1.2978

y\_pred\_df Animal.ID: [ 5 6 8 ... 109782 109791 109795]

y\_test\_df Animal.ID: [ 5 6 8 ... 109782 109791 109795]

Accuracy: 0.7274

Precision: 0.7266

Recall: 0.7274

F1 Score: 0.7239

Log Loss: 1.2847

y\_pred\_df Animal.ID: [ 3 12 15 ... 109778 109780 109790]

y\_test\_df Animal.ID: [ 3 12 15 ... 109778 109780 109790]

Accuracy: 0.7312

Precision: 0.7301

Recall: 0.7312

F1 Score: 0.7277

Log Loss: 1.2981

Average Metrics for Repetition 3/10:

Accuracy: 0.7303

Precision: 0.7296

Recall: 0.7303

F1\_score: 0.7267

Log\_loss: 1.2943

Cross-Validation Repeat: 4/10

y\_pred\_df Animal.ID: [ 0 5 9 ... 109782 109785 109795]

y\_test\_df Animal.ID: [ 0 5 9 ... 109782 109785 109795]

Accuracy: 0.7313

Precision: 0.7306

Recall: 0.7313

F1 Score: 0.7280

Log Loss: 1.2843

y\_pred\_df Animal.ID: [ 3 11 17 ... 109781 109783 109790]

y\_test\_df Animal.ID: [ 3 11 17 ... 109781 109783 109790]

Accuracy: 0.7282

Precision: 0.7277

Recall: 0.7282

F1 Score: 0.7246

Log Loss: 1.2936

y\_pred\_df Animal.ID: [ 13 14 18 ... 109773 109778 109784]

y\_test\_df Animal.ID: [ 13 14 18 ... 109773 109778 109784]

Accuracy: 0.7351

Precision: 0.7347

Recall: 0.7351

F1 Score: 0.7312

Log Loss: 1.2980

y\_pred\_df Animal.ID: [ 4 7 19 ... 109791 109792 109793]

y\_test\_df Animal.ID: [ 4 7 19 ... 109791 109792 109793]

Accuracy: 0.7293

Precision: 0.7284

Recall: 0.7293

F1 Score: 0.7255

Log Loss: 1.2914

y\_pred\_df Animal.ID: [ 1 2 6 ... 109788 109789 109794]

y\_test\_df Animal.ID: [ 1 2 6 ... 109788 109789 109794]

Accuracy: 0.7313

Precision: 0.7308

Recall: 0.7313

F1 Score: 0.7279

Log Loss: 1.3000

Average Metrics for Repetition 4/10:

Accuracy: 0.7310

Precision: 0.7304

Recall: 0.7310

F1\_score: 0.7275

Log\_loss: 1.2935

Cross-Validation Repeat: 5/10

y\_pred\_df Animal.ID: [ 3 9 10 ... 109781 109783 109793]

y\_test\_df Animal.ID: [ 3 9 10 ... 109781 109783 109793]

Accuracy: 0.7299

Precision: 0.7298

Recall: 0.7299

F1 Score: 0.7262

Log Loss: 1.3058

y\_pred\_df Animal.ID: [ 4 6 7 ... 109792 109794 109795]

y\_test\_df Animal.ID: [ 4 6 7 ... 109792 109794 109795]

Accuracy: 0.7300

Precision: 0.7293

Recall: 0.7300

F1 Score: 0.7267

Log Loss: 1.2895

y\_pred\_df Animal.ID: [ 0 5 15 ... 109775 109776 109788]

y\_test\_df Animal.ID: [ 0 5 15 ... 109775 109776 109788]

Accuracy: 0.7297

Precision: 0.7291

Recall: 0.7297

F1 Score: 0.7262

Log Loss: 1.2857

y\_pred\_df Animal.ID: [ 8 17 30 ... 109784 109787 109789]

y\_test\_df Animal.ID: [ 8 17 30 ... 109784 109787 109789]

Accuracy: 0.7314

Precision: 0.7304

Recall: 0.7314

F1 Score: 0.7279

Log Loss: 1.3044

y\_pred\_df Animal.ID: [ 1 2 13 ... 109782 109785 109790]

y\_test\_df Animal.ID: [ 1 2 13 ... 109782 109785 109790]

Accuracy: 0.7316

Precision: 0.7307

Recall: 0.7316

F1 Score: 0.7281

Log Loss: 1.2917

Average Metrics for Repetition 5/10:

Accuracy: 0.7305

Precision: 0.7298

Recall: 0.7305

F1\_score: 0.7270

Log\_loss: 1.2954

Cross-Validation Repeat: 6/10

y\_pred\_df Animal.ID: [ 7 12 27 ... 109777 109792 109793]

y\_test\_df Animal.ID: [ 7 12 27 ... 109777 109792 109793]

Accuracy: 0.7346

Precision: 0.7341

Recall: 0.7346

F1 Score: 0.7310

Log Loss: 1.2840

y\_pred\_df Animal.ID: [ 1 3 13 ... 109775 109780 109790]

y\_test\_df Animal.ID: [ 1 3 13 ... 109775 109780 109790]

Accuracy: 0.7274

Precision: 0.7267

Recall: 0.7274

F1 Score: 0.7235

Log Loss: 1.2937

y\_pred\_df Animal.ID: [ 5 6 8 ... 109787 109788 109795]

y\_test\_df Animal.ID: [ 5 6 8 ... 109787 109788 109795]

Accuracy: 0.7288

Precision: 0.7286

Recall: 0.7288

F1 Score: 0.7253

Log Loss: 1.2855

y\_pred\_df Animal.ID: [ 2 17 19 ... 109782 109783 109794]

y\_test\_df Animal.ID: [ 2 17 19 ... 109782 109783 109794]

Accuracy: 0.7284

Precision: 0.7275

Recall: 0.7284

F1 Score: 0.7247

Log Loss: 1.3185

y\_pred\_df Animal.ID: [ 0 4 10 ... 109785 109789 109791]

y\_test\_df Animal.ID: [ 0 4 10 ... 109785 109789 109791]

Accuracy: 0.7354

Precision: 0.7346

Recall: 0.7354

F1 Score: 0.7323

Log Loss: 1.2943

Average Metrics for Repetition 6/10:

Accuracy: 0.7309

Precision: 0.7303

Recall: 0.7309

F1\_score: 0.7273

Log\_loss: 1.2952

Cross-Validation Repeat: 7/10

y\_pred\_df Animal.ID: [ 5 6 7 ... 109788 109791 109792]

y\_test\_df Animal.ID: [ 5 6 7 ... 109788 109791 109792]

Accuracy: 0.7296

Precision: 0.7293

Recall: 0.7296

F1 Score: 0.7257

Log Loss: 1.2971

y\_pred\_df Animal.ID: [ 2 4 17 ... 109774 109780 109794]

y\_test\_df Animal.ID: [ 2 4 17 ... 109774 109780 109794]

Accuracy: 0.7298

Precision: 0.7288

Recall: 0.7298

F1 Score: 0.7265

Log Loss: 1.2956

y\_pred\_df Animal.ID: [ 0 1 11 ... 109786 109787 109795]

y\_test\_df Animal.ID: [ 0 1 11 ... 109786 109787 109795]

Accuracy: 0.7289

Precision: 0.7283

Recall: 0.7289

F1 Score: 0.7252

Log Loss: 1.2983

y\_pred\_df Animal.ID: [ 3 8 9 ... 109784 109785 109789]

y\_test\_df Animal.ID: [ 3 8 9 ... 109784 109785 109789]

Accuracy: 0.7331

Precision: 0.7323

Recall: 0.7331

F1 Score: 0.7300

Log Loss: 1.2960

y\_pred\_df Animal.ID: [ 12 14 19 ... 109777 109790 109793]

y\_test\_df Animal.ID: [ 12 14 19 ... 109777 109790 109793]

Accuracy: 0.7305

Precision: 0.7300

Recall: 0.7305

F1 Score: 0.7266

Log Loss: 1.3014

Average Metrics for Repetition 7/10:

Accuracy: 0.7304

Precision: 0.7298

Recall: 0.7304

F1\_score: 0.7268

Log\_loss: 1.2977

Cross-Validation Repeat: 8/10

y\_pred\_df Animal.ID: [ 29 33 36 ... 109781 109782 109790]

y\_test\_df Animal.ID: [ 29 33 36 ... 109781 109782 109790]

Accuracy: 0.7337

Precision: 0.7324

Recall: 0.7337

F1 Score: 0.7300

Log Loss: 1.2877

y\_pred\_df Animal.ID: [ 1 5 12 ... 109789 109792 109795]

y\_test\_df Animal.ID: [ 1 5 12 ... 109789 109792 109795]

Accuracy: 0.7330

Precision: 0.7329

Recall: 0.7330

F1 Score: 0.7295

Log Loss: 1.2950

y\_pred\_df Animal.ID: [ 2 3 4 ... 109783 109786 109794]

y\_test\_df Animal.ID: [ 2 3 4 ... 109783 109786 109794]

Accuracy: 0.7325

Precision: 0.7318

Recall: 0.7325

F1 Score: 0.7292

Log Loss: 1.3018

y\_pred\_df Animal.ID: [ 6 15 19 ... 109774 109779 109791]

y\_test\_df Animal.ID: [ 6 15 19 ... 109774 109779 109791]

Accuracy: 0.7229

Precision: 0.7226

Recall: 0.7229

F1 Score: 0.7191

Log Loss: 1.2824

y\_pred\_df Animal.ID: [ 0 10 11 ... 109785 109788 109793]

y\_test\_df Animal.ID: [ 0 10 11 ... 109785 109788 109793]

Accuracy: 0.7279

Precision: 0.7271

Recall: 0.7279

F1 Score: 0.7245

Log Loss: 1.2948

Average Metrics for Repetition 8/10:

Accuracy: 0.7300

Precision: 0.7293

Recall: 0.7300

F1\_score: 0.7264

Log\_loss: 1.2923

Cross-Validation Repeat: 9/10

y\_pred\_df Animal.ID: [ 1 7 10 ... 109778 109780 109791]

y\_test\_df Animal.ID: [ 1 7 10 ... 109778 109780 109791]

Accuracy: 0.7362

Precision: 0.7360

Recall: 0.7362

F1 Score: 0.7322

Log Loss: 1.2998

y\_pred\_df Animal.ID: [ 0 2 3 ... 109790 109793 109795]

y\_test\_df Animal.ID: [ 0 2 3 ... 109790 109793 109795]

Accuracy: 0.7317

Precision: 0.7311

Recall: 0.7317

F1 Score: 0.7284

Log Loss: 1.2934

y\_pred\_df Animal.ID: [ 5 11 12 ... 109787 109792 109794]

y\_test\_df Animal.ID: [ 5 11 12 ... 109787 109792 109794]

Accuracy: 0.7257

Precision: 0.7250

Recall: 0.7257

F1 Score: 0.7222

Log Loss: 1.2831

y\_pred\_df Animal.ID: [ 8 14 15 ... 109763 109773 109774]

y\_test\_df Animal.ID: [ 8 14 15 ... 109763 109773 109774]

Accuracy: 0.7289

Precision: 0.7273

Recall: 0.7289

F1 Score: 0.7256

Log Loss: 1.3013

y\_pred\_df Animal.ID: [ 6 13 16 ... 109760 109768 109789]

y\_test\_df Animal.ID: [ 6 13 16 ... 109760 109768 109789]

Accuracy: 0.7300

Precision: 0.7301

Recall: 0.7300

F1 Score: 0.7262

Log Loss: 1.2925

Average Metrics for Repetition 9/10:

Accuracy: 0.7305

Precision: 0.7299

Recall: 0.7305

F1\_score: 0.7269

Log\_loss: 1.2940

Cross-Validation Repeat: 10/10

y\_pred\_df Animal.ID: [ 14 22 24 ... 109782 109787 109788]

y\_test\_df Animal.ID: [ 14 22 24 ... 109782 109787 109788]

Accuracy: 0.7312

Precision: 0.7306

Recall: 0.7312

F1 Score: 0.7274

Log Loss: 1.3032

y\_pred\_df Animal.ID: [ 4 8 11 ... 109790 109792 109793]

y\_test\_df Animal.ID: [ 4 8 11 ... 109790 109792 109793]

Accuracy: 0.7338

Precision: 0.7331

Recall: 0.7338

F1 Score: 0.7301

Log Loss: 1.2943

y\_pred\_df Animal.ID: [ 2 3 7 ... 109775 109784 109785]

y\_test\_df Animal.ID: [ 2 3 7 ... 109775 109784 109785]

Accuracy: 0.7325

Precision: 0.7319

Recall: 0.7325

F1 Score: 0.7290

Log Loss: 1.2960

y\_pred\_df Animal.ID: [ 0 1 5 ... 109762 109786 109794]

y\_test\_df Animal.ID: [ 0 1 5 ... 109762 109786 109794]

Accuracy: 0.7278

Precision: 0.7273

Recall: 0.7278

F1 Score: 0.7245

Log Loss: 1.2889

y\_pred\_df Animal.ID: [ 6 10 35 ... 109783 109791 109795]

y\_test\_df Animal.ID: [ 6 10 35 ... 109783 109791 109795]

Accuracy: 0.7279

Precision: 0.7271

Recall: 0.7279

F1 Score: 0.7244

Log Loss: 1.3046

Average Metrics for Repetition 10/10:

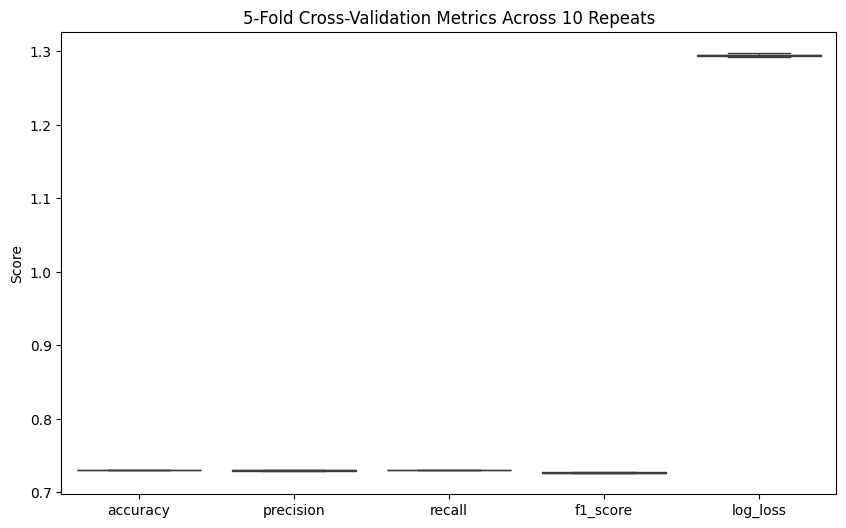
Accuracy: 0.7307

Precision: 0.7300

Recall: 0.7307

F1\_score: 0.7271

Log\_loss: 1.2974



CV with pca gives lower accuracy and lower log loss than CV without pca.