Skill libraries and recorded transfers

42 skill names · 7 donor libraries · 12 transfer directions

Donor = earlier task supplying the library. Recipient = new task receiving the code.

✓ Code retained in every run **Some** Code retained in some runs — Skill absent from that donor library

Skill Grouped by function Donor → recipient	Two inverted cups Donor		Two upright cups Donor		Three-cup stack Donor				Cup onto holder Donor	Cap onto branch Donor	Marker into container Donor	Battery into bowl Donor
	Three-cup stack Recipient	Two upright cups Recipient	Three upright cups Recipient	Two inverted cups Recipient	Five-cup stack Recipient	Five-cup stack Random layout Recipient	Six-cup stack Recipient	Six-cup stack Random layout Recipient	Cap onto branch Recipient	Cup onto holder Recipient	Battery into bowl Recipient	Marker into container Recipient
Robot interface & calibration												
Robot connection & commands	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Gen3 kinematics	—	—	✓	✓	—	—	—	—	—	—	—	—
Kinematic model & fitting	✓	✓	—	—	✓	✓	✓	✓	✓	✓	✓	✓
Forward-kinematics fitting	—	—	✓	✓	—	—	—	—	—	—	—	—
Calibration data	✓	✓	—	—	✓	✓	✓	✓	✓	✓	✓	✓
Camera-rig calibration	—	—	✓	✓	—	—	—	—	—	—	—	—
Motion & safeguards												
Motion planning	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Joint-speed control	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Cup-clearance replay	—	—	✓	✓	—	—	—	—	—	—	—	—
Simulation replay checks	✓	✓	—	—	✓	✓	✓	✓	✓	✓	✓	✓
Safety watchdog	—	—	✓	✓	—	—	—	—	—	—	—	—
Stop, return home & watchdog	✓	✓	—	—	✓	✓	✓	✓	✓	✓	✓	✓
Cameras & perception												
Cameras & height maps	—	—	—	—	—	—	—	—	—	—	✓	—
Cameras & live view	—	—	—	—	✓	✓	✓	✓	—	—	—	—
Cameras & point clouds	—	—	—	—	—	—	—	—	✓	✓	—	✓
Live camera display	✓	✓	✓	✓	—	—	—	—	—	✓	—	—
Side-depth cup finder	—	—	✓	✓	—	—	—	—	—	—	—	—
Side-view cup position & height	✓	✓	—	—	✓	✓	✓	✓	—	—	—	—
Wrist-camera cup refinement	✓	✓	—	—	—	—	—	—	—	—	—	—
Wrist-depth refinement	—	—	—	—	✓	✓	✓	✓	—	—	—	—
Wrist-view refinement	—	—	—	—	—	—	—	—	—	Some	—	—
Marker & container detection	—	—	—	—	—	—	—	—	—	—	✓	—
Battery & bowl perception	—	—	—	—	—	—	—	—	—	—	—	✓
Holder finger & cup perception	—	—	—	—	—	—	—	—	✓	—	—	—
Holder & cap perception	—	—	—	—	—	—	—	—	—	Some	—	—
Task rules from demonstrations												
Rule extraction from demonstrations	✓	✓	✓	✓	—	—	—	—	—	—	—	—
Cup-stack rule & demo helpers	—	—	—	—	✓	✓	✓	✓	—	—	—	—
Marker rule & demo helpers	—	—	—	—	—	—	—	—	—	—	✓	—
Battery rule & demo helpers	—	—	—	—	—	—	—	—	—	—	—	✓
Cup-holder rule & demo helpers	—	—	—	—	—	—	—	—	✓	—	—	—
Branch rule & demo helpers	—	—	—	—	—	—	—	—	—	Some	—	—
Grasping, placement & verification												
Cup grasping & nesting	—	—	✓	✓	—	—	—	—	—	—	—	—
Cup grasping / placement checks	✓	✓	—	—	—	—	—	—	—	—	—	—
Cup grasping & pyramid placement	—	—	—	—	✓	✓	✓	✓	—	—	—	—
Marker grasping & placement	—	—	—	—	—	—	—	—	—	—	✓	—
Battery grasping & placement	—	—	—	—	—	—	—	—	—	—	—	✓
Cup placement over a holder’s finger	—	—	—	—	—	—	—	—	✓	—	—	—
Cap grasping & hanging	—	—	—	—	—	—	—	—	—	Some	—	—
Container-placement verification	—	—	—	—	—	—	—	—	—	—	✓	—
Placement verification	—	—	—	—	—	—	—	—	✓	—	—	✓
Complete task programs												
Upright-cup task program	—	—	✓	✓	—	—	—	—	—	—	—	—
Task-program scaffold	✓	✓	—	—	✓	✓	✓	✓	✓	✓	✓	✓