

## PIDController

- Kp: vector<double>
- Ki: vector<double>
- Kd: vector<double>
- targetSetPoint: vector<double>
- finalVelocity: vector<double>
- actualVelocity: vector<double>
- errorSum: double
- lastVelocity: vector<double>
- maxLimitVel:double

- +computeOutput():shared\_ptr\_vector<double>
- +changeSetPoint(shared\_ptr\_vector<double>):shared\_ptr\_vector<double>
- +updateErrorSum():double
- +getKpGain():shared\_ptr\_vector<double>
- +setKpGain(shared\_ptr\_vector<double>):bool
- +getKiGain():shared\_ptr\_vector<double>
- +setKiGain(shared\_ptr\_vector<double>):bool
- +getKdGain():shared\_ptr\_vector<double>
- +setKdGain(shared\_ptr\_vector<double>):bool
- +getActualVelocity():shared\_ptr\_vector<double>
- +setActualVelocity(shared\_ptr\_vector<double>):bool
- +getMaxLimitVel():double
- +setMaxLimitVel(shared\_ptr\_vector<double>):bool
- +getTargetSetPoint():shared\_ptr\_vector<double>
- +setTargetSetPoint(shared\_ptr\_vector<double>):bool