Code for joystick:

int pot1=A1;

int pot2=A2;

int x,y=0;

int a=0;

boolean mlf,mrf,mlb,mrb=0;

int lf=4;

int rf=5;

int lb=2;

int rb=3;

int xd1,yd1,xd2,yd2=0;

int pwml,pwmr=0;

int rp=9;

int lp=10;

void setup() {

// put your setup code here, to run once:

pinMode(pot1,INPUT);

pinMode(pot2,INPUT);

pinMode(lf,OUTPUT);

pinMode(rf,OUTPUT);

pinMode(lb,OUTPUT);

pinMode(rb,OUTPUT);

pinMode(rp,OUTPUT);

pinMode(lp,OUTPUT);

Serial.begin(9600);

}

void potread()

{

x=analogRead(pot1);

y=analogRead(pot2);

y=1023-y;

}

int joystick()

{

if ((x<525 && x>505 ) && (y<525 && y>505))

{

mlf=0;

mrf=0;

mlb=0;

mrb=0;

return 0;

}

else if (y>=511)

{

if (x>=y && x>=511)

{

mlf=1;

mrf=0;

mlb=0;

mrb=1;

return 1;

}

else if (y>=x && x>=511)

{

mlf=1;

mrf=1;

mlb=0;

mrb=0;

return 2;

}

else if ( 1023-x<y && x<=511)

{

mlf=1;

mrf=1;

mlb=0;

mrb=0;

return 3;

}

else if (1023-x>=y && x<=511)

{

mlf=0;

mrf=1;

mlb=1;

mrb=0;

return 4;

}

}

else if (y<511)

{

if (x<=y && x<=511)

{

mlf=0;

mrf=1;

mlb=1;

mrb=0;

return 5;

}

else if (y<=x && x<=511)

{

mlf=0;

mrf=0;

mlb=1;

mrb=1;

return 6;

}

else if (1023-x>=y && x>=511)

{

mlf=0;

mrf=0;

mlb=1;

mrb=1;

return 7;

}

else if (1023-x<y && x>=511)

{

mlf=1;

mrf=0;

mlb=0;

mrb=1;

return 8;

}

}

}

int mod(int n)

{

if (n<0)

{

n=-n;

}

return n;

}

void pwmconv()

{

xd1=map(x,511,1023,0,255);

xd2=map(x,511,0,0,255);

yd1=map(y,511,1023,0,255);

yd2=map(y,511,0,0,255);

if (a==0)

{

pwml=0;

pwmr=0;

}

else if(a==1)

{

pwml=xd1;

pwmr=mod(xd1-yd1);

}

else if(a==2)

{

pwml=yd1;

pwmr=mod(yd1-xd1);

}

else if(a==3)

{

pwml=mod(yd1-xd2);

pwmr=yd1;

}

else if(a==4)

{

pwml=mod(xd2-yd1);

pwmr=xd2;

}

else if(a==5)

{

pwml=xd2;

pwmr=mod(yd2-xd2);

}

else if(a==6)

{

pwml=yd2;

pwmr=mod(xd2-yd2);

}

else if(a==7)

{

pwml=mod(yd2-xd1);

pwmr=yd2;

}

else if(a==8)

{

pwml=mod(xd1-yd2);

pwmr=xd1;

}

}

void drive()

{

digitalWrite(lf,mlf);

digitalWrite(rf,mrf);

digitalWrite(lb,mlb);

digitalWrite(rb,mrb);

analogWrite(rp,pwmr);

analogWrite(lp,pwml);

}

void loop()

{

// put your main code here, to run repeatedly:

potread();

a=joystick();

pwmconv();

drive();

Serial.print("a ");

Serial.println(a);

Serial.print("pwmr ");

Serial.println(pwmr);

Serial.print("pwml ");

Serial.println(pwml);

}

Machine learning:

I haven’t started it yet because there is a wedding in my family.