In[1]:=
```
SetDirectory[
 "C:\\Users\\Chris\\Desktop\\PPL\\EDUCATION\\SoftwareTutorials\\Mathematica\\
   VideoDataPlayer"]
```

Out[1]= C:\Users\Chris\Desktop\PPL\EDUCATION\SoftwareTutorials\Mathematica\VideoDataPlayer

```
Internal`$VideoEncodings
```

{Animation, BMP, Cinepak, Component Video, DVCPRO - PAL, DV/DVCPRO - NTSC, DV - PAL, Graphics, H.261, H.263, JPEG 2000, Motion JPEG A, Motion JPEG B, MPEG-4 Video, Photo - JPEG, Planar RGB, PNG, Sorenson Video, TGA, TIFF, Uncompressed, Video}

```
(*****Mathematica:How to animate video beside a dynamically updating plot  ***)
nframes = Import["FrogKick_62Hz.avi", "FrameCount"]
```

Out[2]= 62

In[3]:=
```
Frames = Import["FrogKick_62Hz.avi", "ImageList"];
```

In[4]:=
```
hipangleData = Import["FrogKick_125Hz.txt", "List"];
videoframerate = 62;
datasamplerate = 125;
sampleratio = datasamplerate / videoframerate;
```

```
Frames[[1]]
```

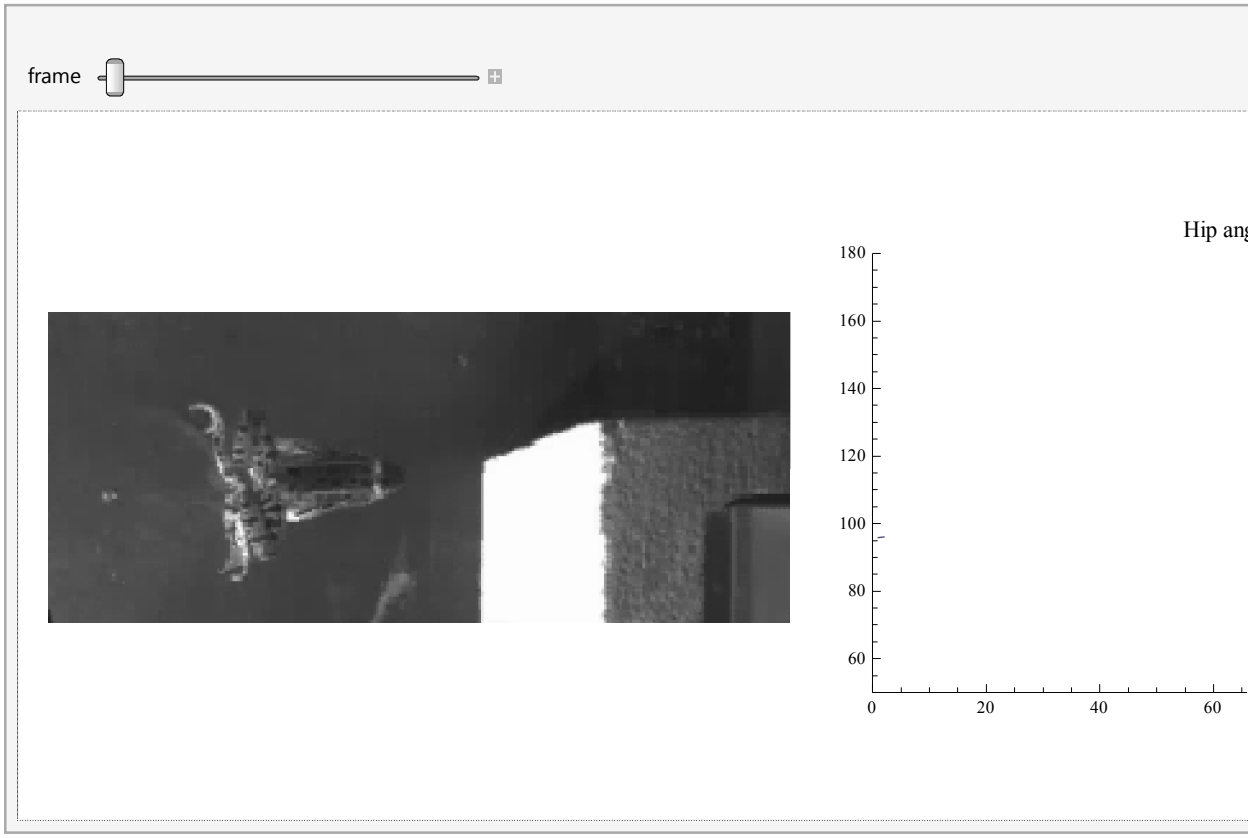
In[8]:=
```
size = ImageDimensions[Frames[[1]]]
```

Out[8]= {512, 250}

In[10]:=
```
Manipulate[
 image1raw = Frames[[frame]];
 image1 = ImageTake[image1raw, {40, 150}, {250, 512}];
 image2 = ListLinePlot[hipangleData[[1 ;; frame * Round[sampleratio]]],
   PlotLabel → "Hip angle", PlotRange → {{0, 125}, {50, 180}}];
 GraphicsRow[{image1, image2}, ImageSize → 800]

 , {frame, 1, nframes, 1}]
```

Out[10]=



In[13]:=
```
graphanimation = Table[
    image1raw = Frames[[frame]];
    image1 = ImageTake[image1raw, {40, 150}, {250, 512}];
    image2 = ListLinePlot[hipangleData[[1 ;; frame * Round[sampleratio]]],
      PlotLabel → "Hip angle", PlotRange → {{0, 125}, {50, 180}}, ImageSize → 800];
    GraphicsRow[{image1, image2}, ImageSize → 400];
    image2
    , {frame, 1, nframes, 1}];
```

In[14]:=
```
Export["graphAnimation.avi", graphanimation]
```

Out[14]= graphAnimation.avi

```
(*****Mathematica: How to crop a video ***)
Manipulate[ImageTake[Frames[[1]], {1 + top, 250 - bottom}, {1 + left, 512 - right}],
 {left, 0, 512}, {right, 0, 512}, {top, 0, 250}, {bottom, 0, 250}]
```

```
(******Mathematica: How to overlay an image onto a video ***)
```

In[73]:=
```
vidFrames = Import["FrogKick_62Hz.avi", "ImageList"];
```

In[85]:=
```
height = 300; width = 600;
imagedata = Table[0, {i, 1, height}, {j, 1, width}];
background = Image[imagedata];

overlay1 = ImageCompose[background, vidFrames[[1]], Scaled[{0.5, 0.5}]];
```

In[90]:=
```
vidFramesOverlay = Table[
    currentframe = vidFrames[[f]];
    overlay = ImageCompose[background, currentframe, Scaled[{0.5, 0.5}]]
    , {f, 1, nframes}];
```