

---

## The UR5 URDF file (kinematics and inertial properties only).

```
<?xml version="1.0" ?>
<robot name="ur5">

<!-- ***** KINEMATIC PROPERTIES (JOINTS) ***** -->
  <joint name="world_joint" type="fixed">
    <parent link="world"/>
    <child link="base_link"/>
    <origin rpy="0.0 0.0 0.0" xyz="0.0 0.0 0.0"/>
  </joint>
  <joint name="joint1" type="continuous">
    <parent link="base_link"/>
    <child link="link1"/>
    <origin rpy="0.0 0.0 0.0" xyz="0.0 0.0 0.089159"/>
    <axis xyz="0 0 1"/>
  </joint>
  <joint name="joint2" type="continuous">
    <parent link="link1"/>
    <child link="link2"/>
    <origin rpy="0.0 1.570796325 0.0" xyz="0.0 0.13585 0.0"/>
    <axis xyz="0 1 0"/>
  </joint>
  <joint name="joint3" type="continuous">
    <parent link="link2"/>
    <child link="link3"/>
    <origin rpy="0.0 0.0 0.0" xyz="0.0 -0.1197 0.425"/>
    <axis xyz="0 1 0"/>
  </joint>
  <joint name="joint4" type="continuous">
    <parent link="link3"/>
    <child link="link4"/>
    <origin rpy="0.0 1.570796325 0.0" xyz="0.0 0.0 0.39225"/>
    <axis xyz="0 1 0"/>
  </joint>
  <joint name="joint5" type="continuous">
    <parent link="link4"/>
    <child link="link5"/>
    <origin rpy="0.0 0.0 0.0" xyz="0.0 0.093 0.0"/>
    <axis xyz="0 0 1"/>
  </joint>
  <joint name="joint6" type="continuous">
    <parent link="link5"/>
    <child link="link6"/>
    <origin rpy="0.0 0.0 0.0" xyz="0.0 0.0 0.09465"/>
    <axis xyz="0 1 0"/>
  </joint>
  <joint name="ee_joint" type="fixed">
    <origin rpy="-1.570796325 0 0" xyz="0 0.0823 0"/>
    <parent link="link6"/>
    <child link="ee_link"/>
  </joint>

<!-- ***** INERTIAL PROPERTIES (LINKS) ***** -->
  <link name="world"/>
  <link name="base_link">
    <inertial>
      <mass value="4.0"/>
      <origin rpy="0 0 0" xyz="0.0 0.0 0.0"/>
      <inertia ixx="0.00443333156" ixy="0.0" izx="0.0">
```

```
        iyy="0.00443333156" iyz="0.0" izz="0.0072"/>
    </inertial>
</link>
<link name="link1">
  <inertial>
    <mass value="3.7"/>
    <origin rpy="0 0 0" xyz="0.0 0.0 0.0"/>
    <inertia ixx="0.010267495893" ixy="0.0" ixz="0.0"
            iyy="0.010267495893" iyz="0.0" izz="0.00666"/>
  </inertial>
</link>
<link name="link2">
  <inertial>
    <mass value="8.393"/>
    <origin rpy="0 0 0" xyz="0.0 0.0 0.28"/>
    <inertia ixx="0.22689067591" ixy="0.0" ixz="0.0"
            iyy="0.22689067591" iyz="0.0" izz="0.0151074"/>
  </inertial>
</link>
<link name="link3">
  <inertial>
    <mass value="2.275"/>
    <origin rpy="0 0 0" xyz="0.0 0.0 0.25"/>
    <inertia ixx="0.049443313556" ixy="0.0" ixz="0.0"
            iyy="0.049443313556" iyz="0.0" izz="0.004095"/>
  </inertial>
</link>
<link name="link4">
  <inertial>
    <mass value="1.219"/>
    <origin rpy="0 0 0" xyz="0.0 0.0 0.0"/>
    <inertia ixx="0.111172755531" ixy="0.0" ixz="0.0"
            iyy="0.111172755531" iyz="0.0" izz="0.21942"/>
  </inertial>
</link>
<link name="link5">
  <inertial>
    <mass value="1.219"/>
    <origin rpy="0 0 0" xyz="0.0 0.0 0.0"/>
    <inertia ixx="0.111172755531" ixy="0.0" ixz="0.0"
            iyy="0.111172755531" iyz="0.0" izz="0.21942"/>
  </inertial>
</link>
<link name="link6">
  <inertial>
    <mass value="0.1879"/>
    <origin rpy="0 0 0" xyz="0.0 0.0 0.0"/>
    <inertia ixx="0.0171364731454" ixy="0.0" ixz="0.0"
            iyy="0.0171364731454" iyz="0.0" izz="0.033822"/>
  </inertial>
</link>
<link name="ee_link"/>
</robot>
```

---