

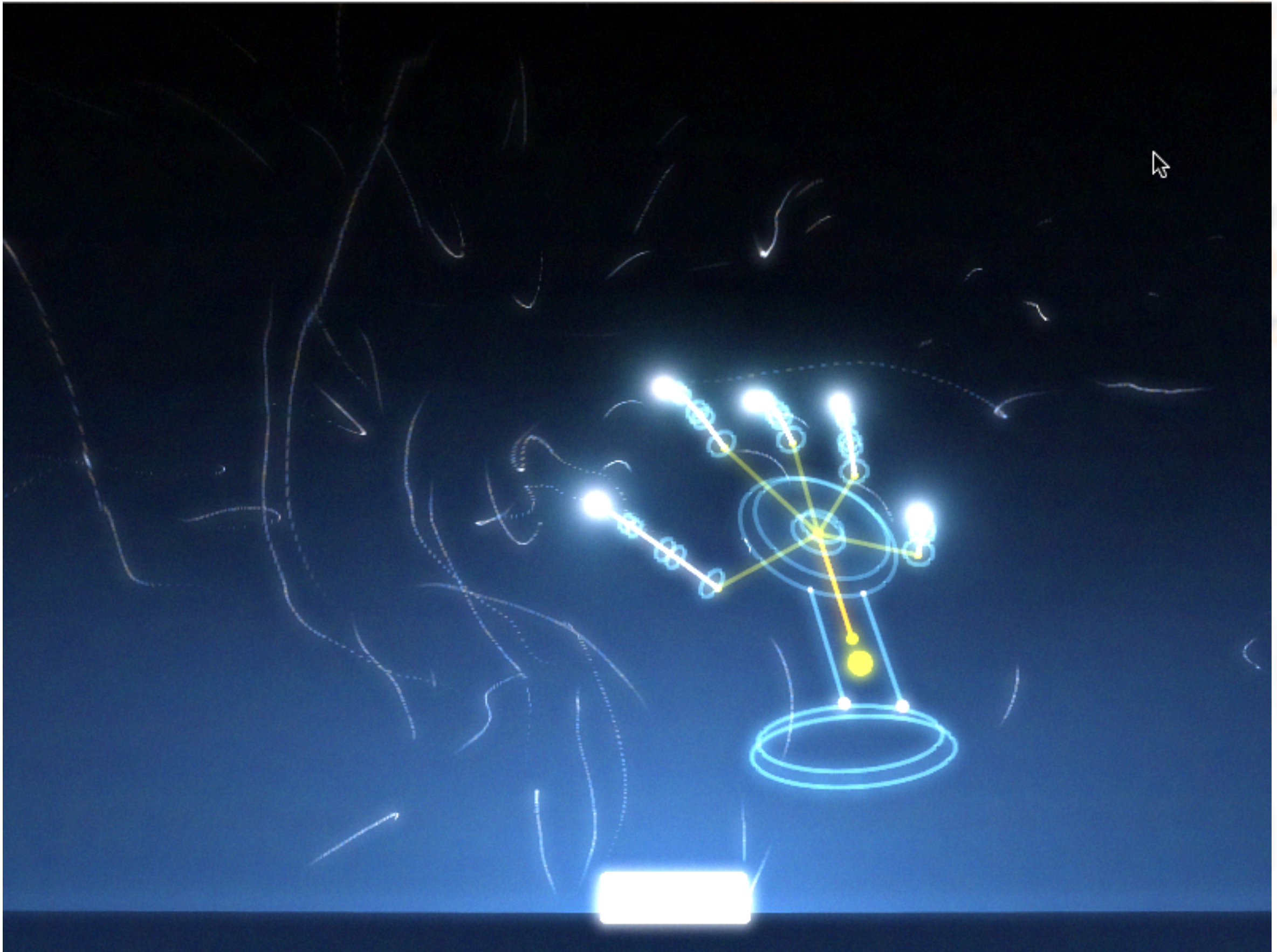


Kinect & Leap Motion Overview

Nicholas Gillian

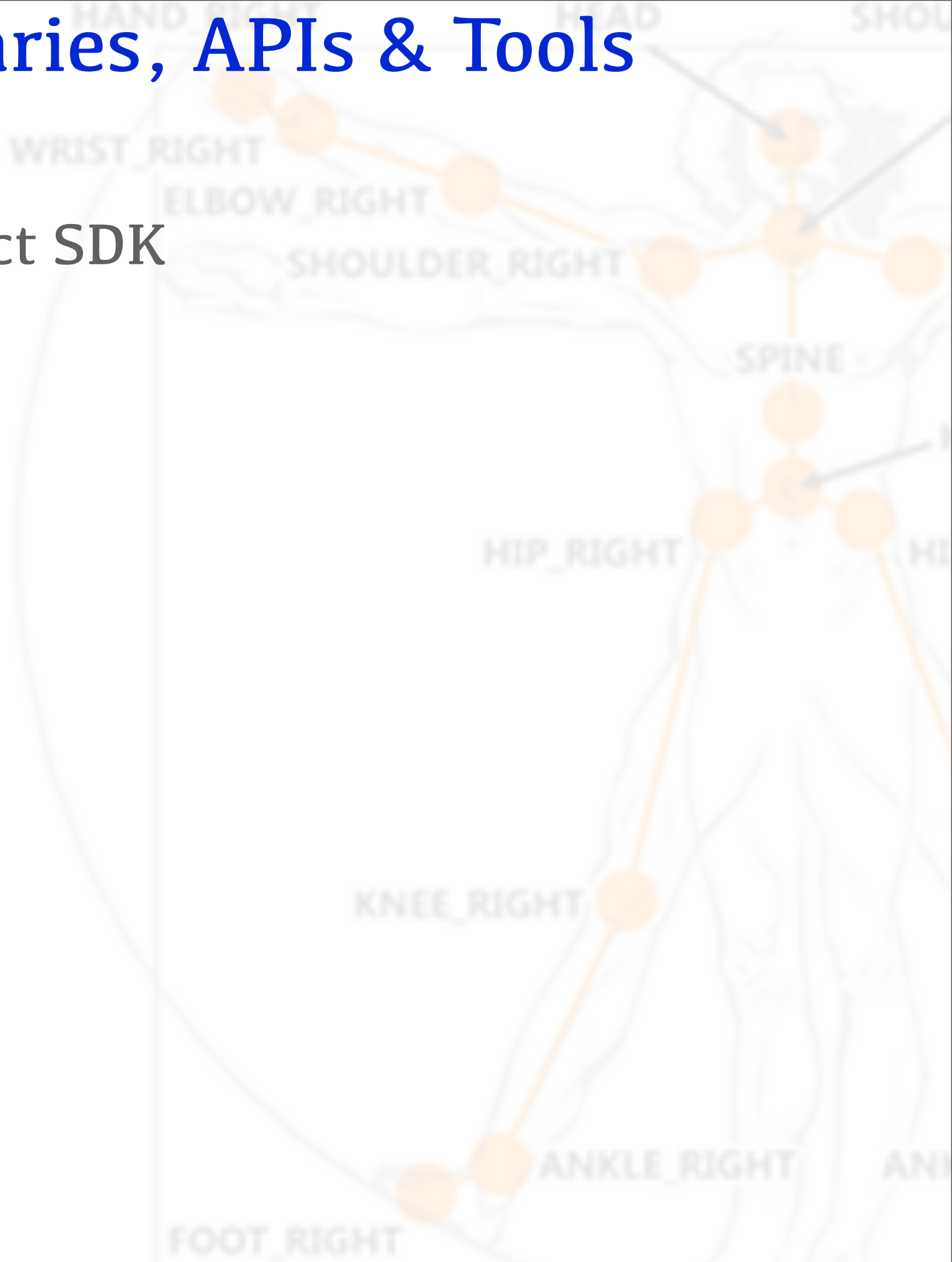
Responsive Environments, MIT Media Lab

Leap Demo

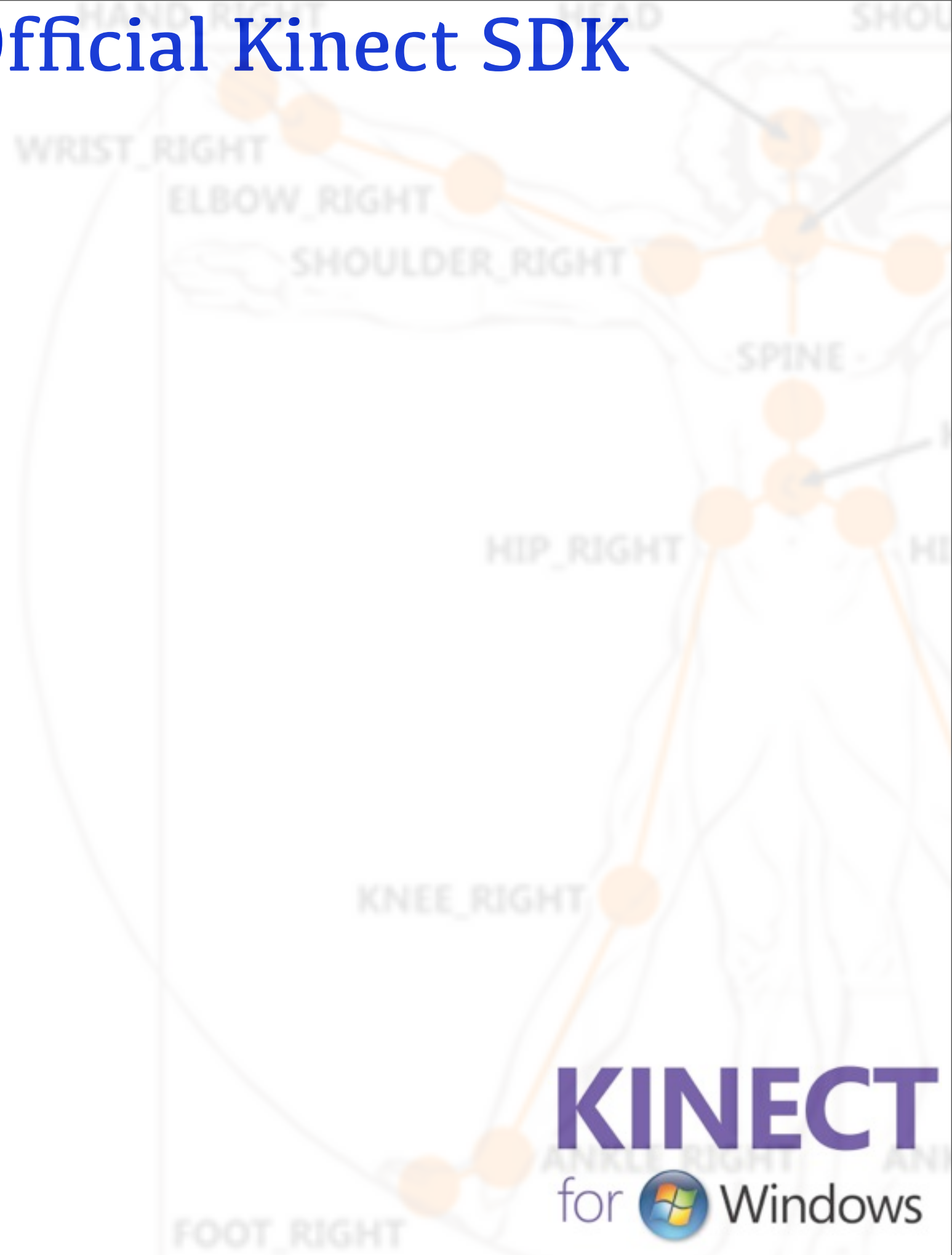


Kinect Libraries, APIs & Tools

- Microsoft Official Kinect SDK
- OpenNI SDK
- Synapse
- Openframeworks



Microsoft Official Kinect SDK



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- Calibration-free skeleton tracking

KINECT
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- Standing and seated tracking modes



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- Speech Recognition
- Face tracking (feature tracking - i.e. mouth, nose, eyes, etc. and direction estimation)
- Good examples (c++, c#) and user documentation



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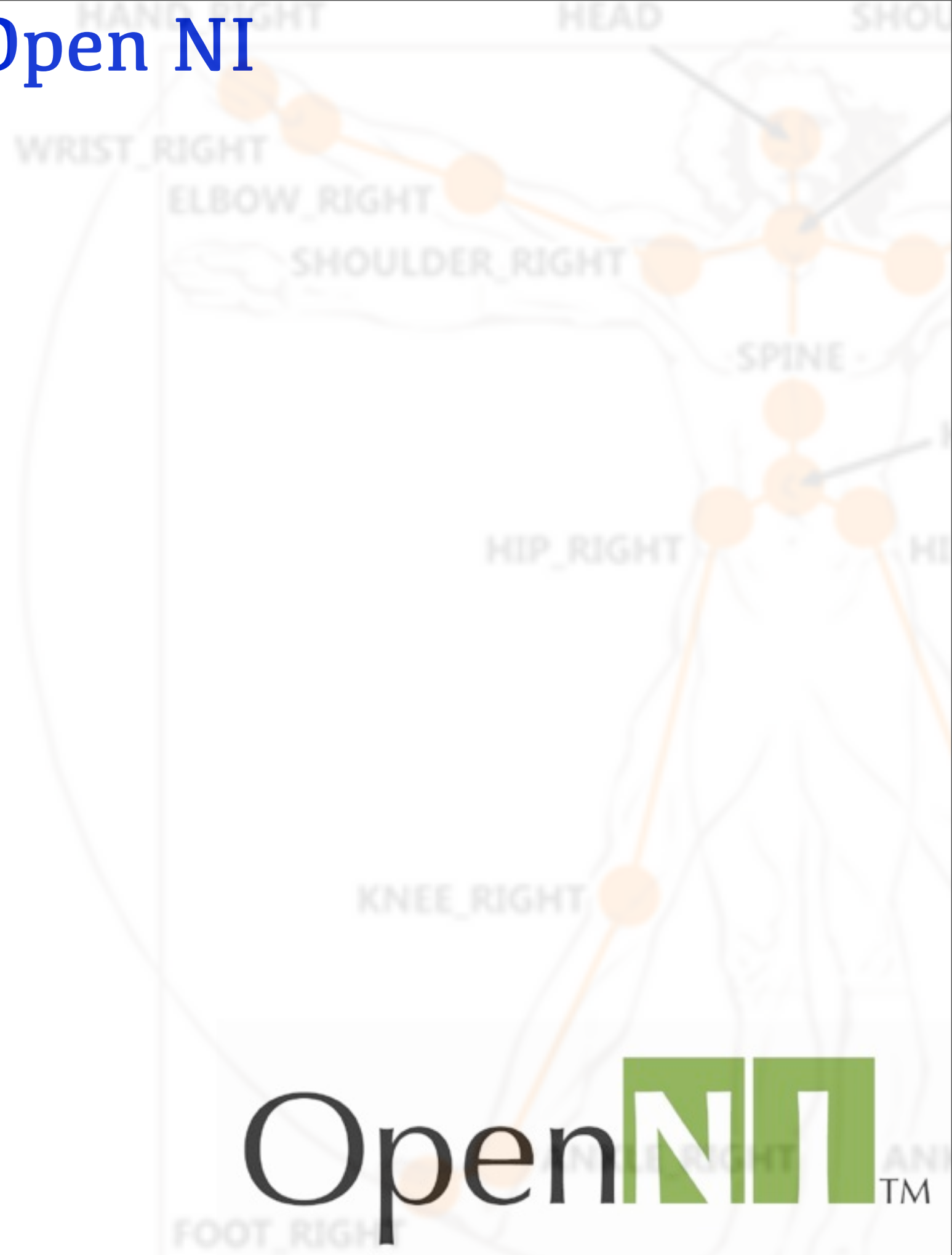
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Disadvantages

- Only works on Windows
- Very CPU intensive
- Skeleton tracking can fail drastically if not used in ideal scenarios



Open NI



OpenNI™

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- ...an industry-led, not-for-profit organization formed to certify and promote the compatibility and interoperability of Natural Interaction (NI) devices, applications and middleware.



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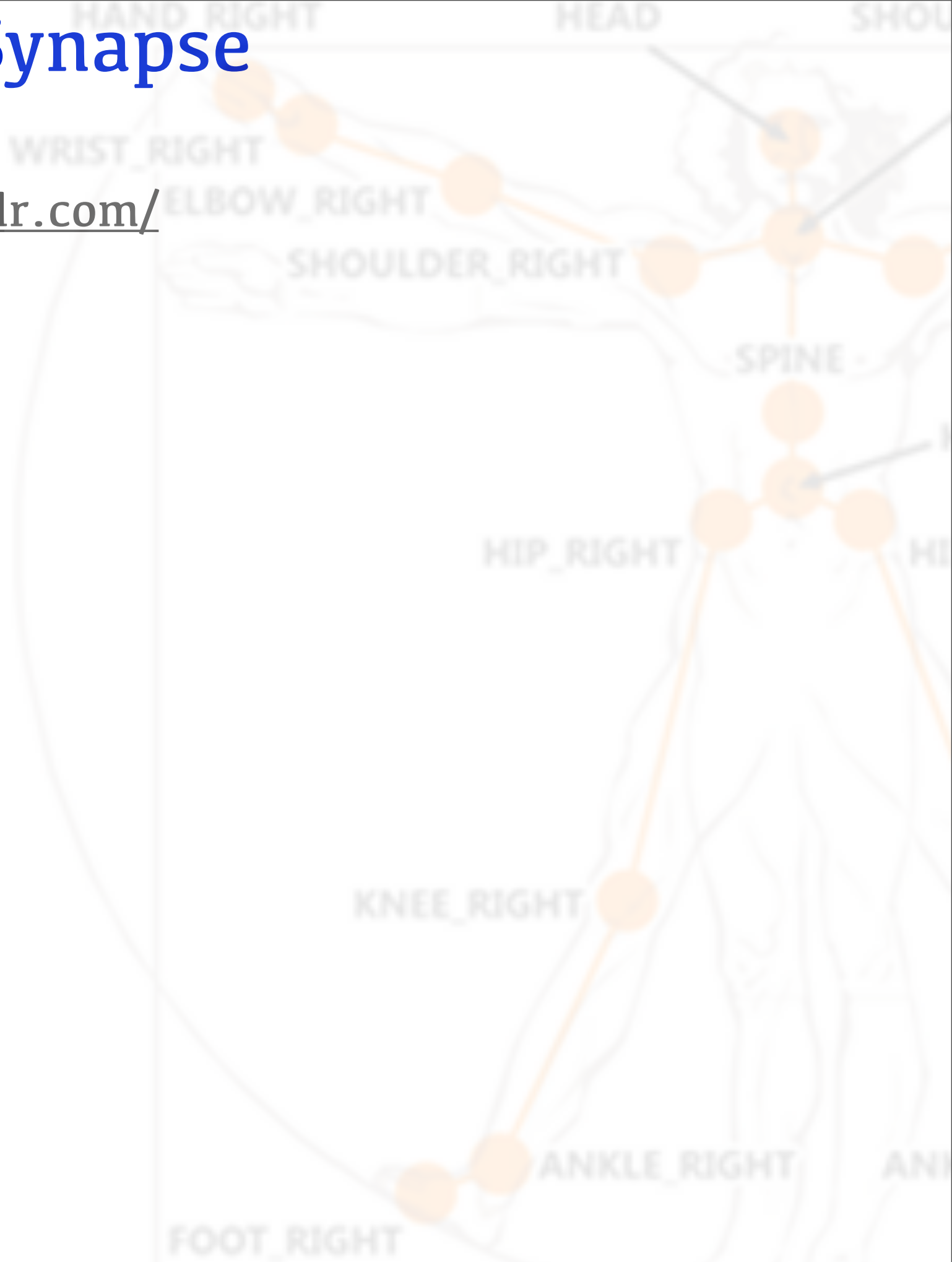


Synapse



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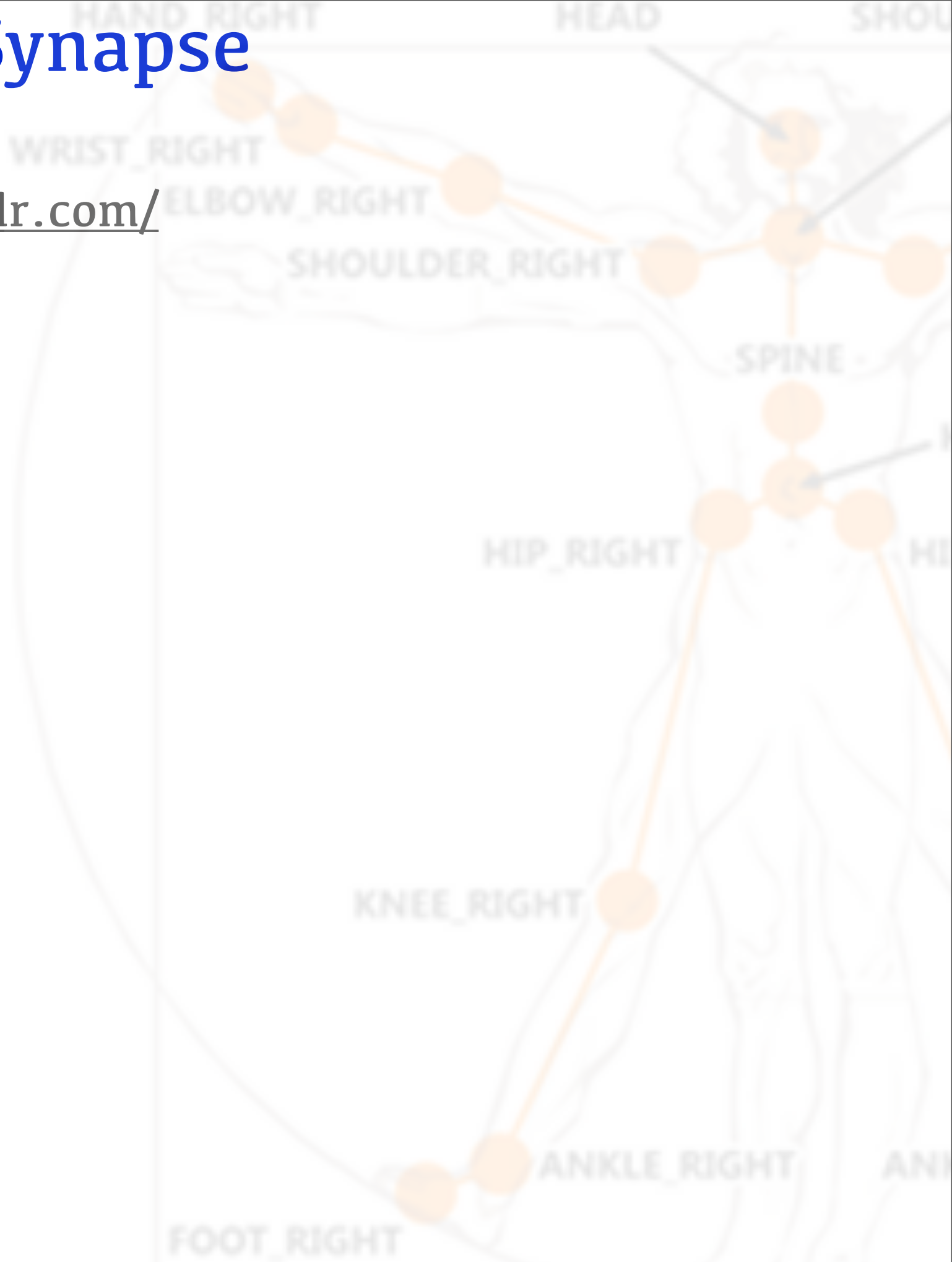
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- Packages up the Open NI tracking libraries for you and sends the tracked positions of a user's joint positions out to another application via OSC (**O**pen **S**ound **C**ontrol)



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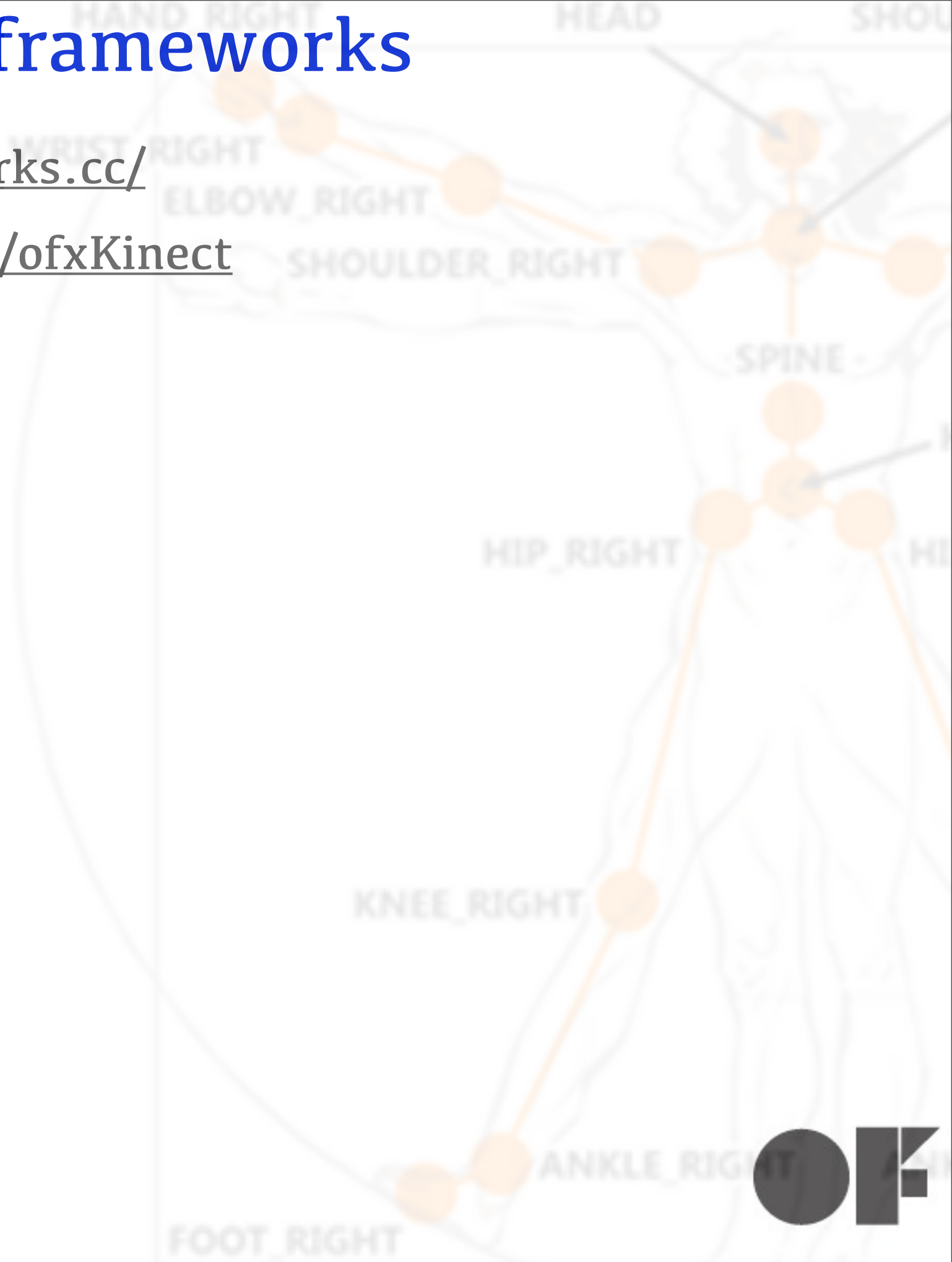
- Skeleton tracking needs calibration pose
- Only works with "Kinect XBox360" hardware

Openframeworks



Openframeworks

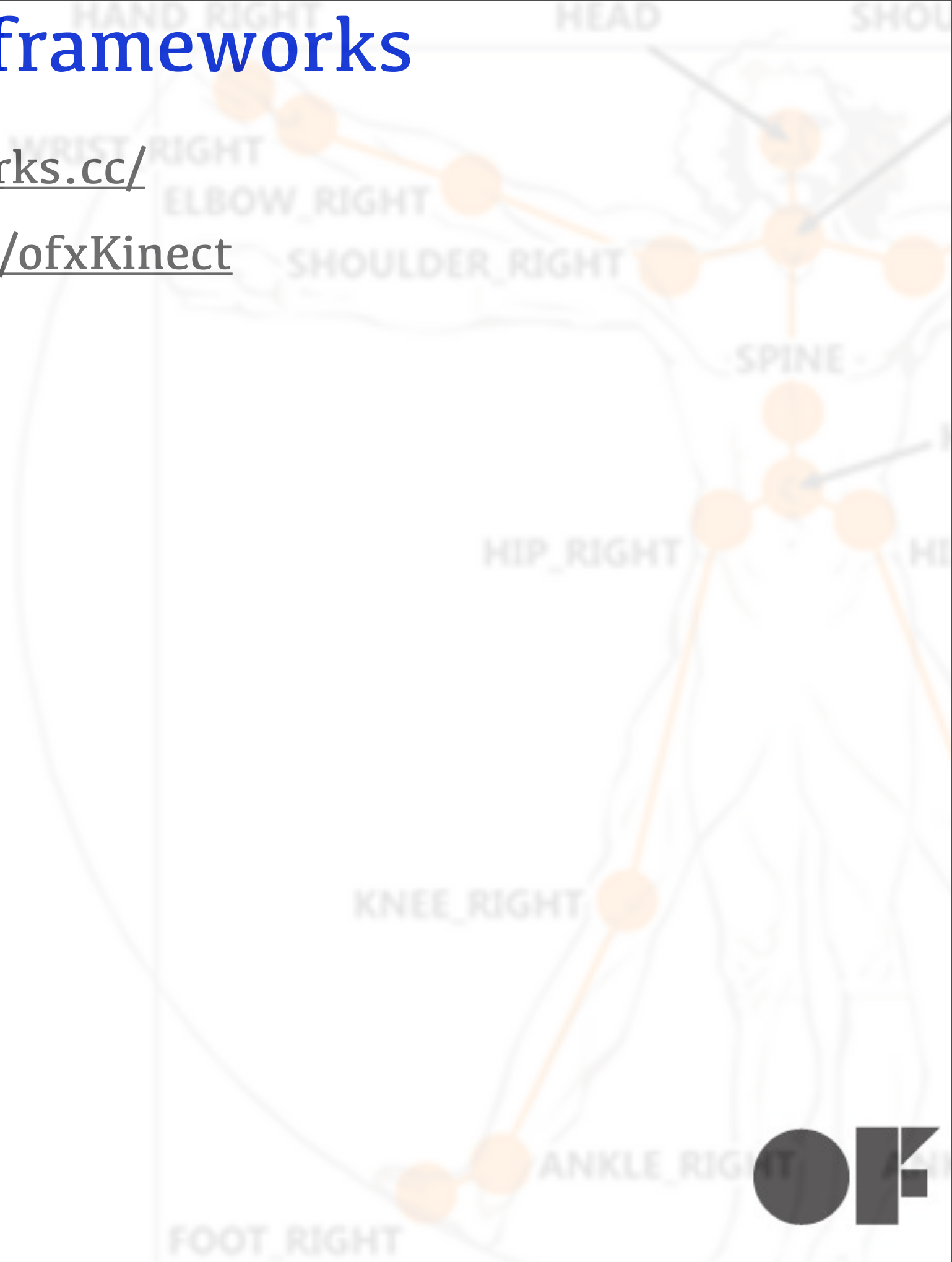
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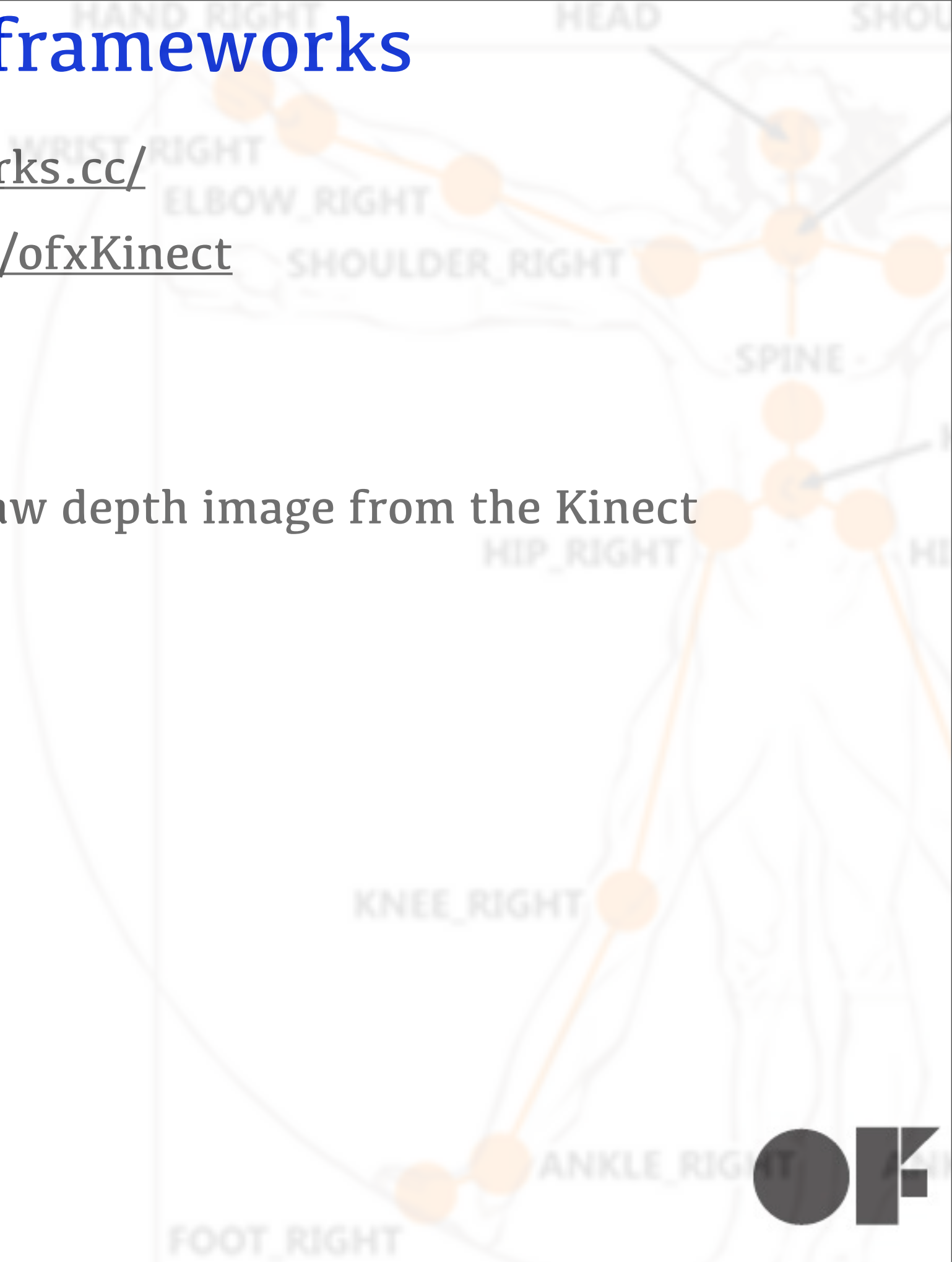


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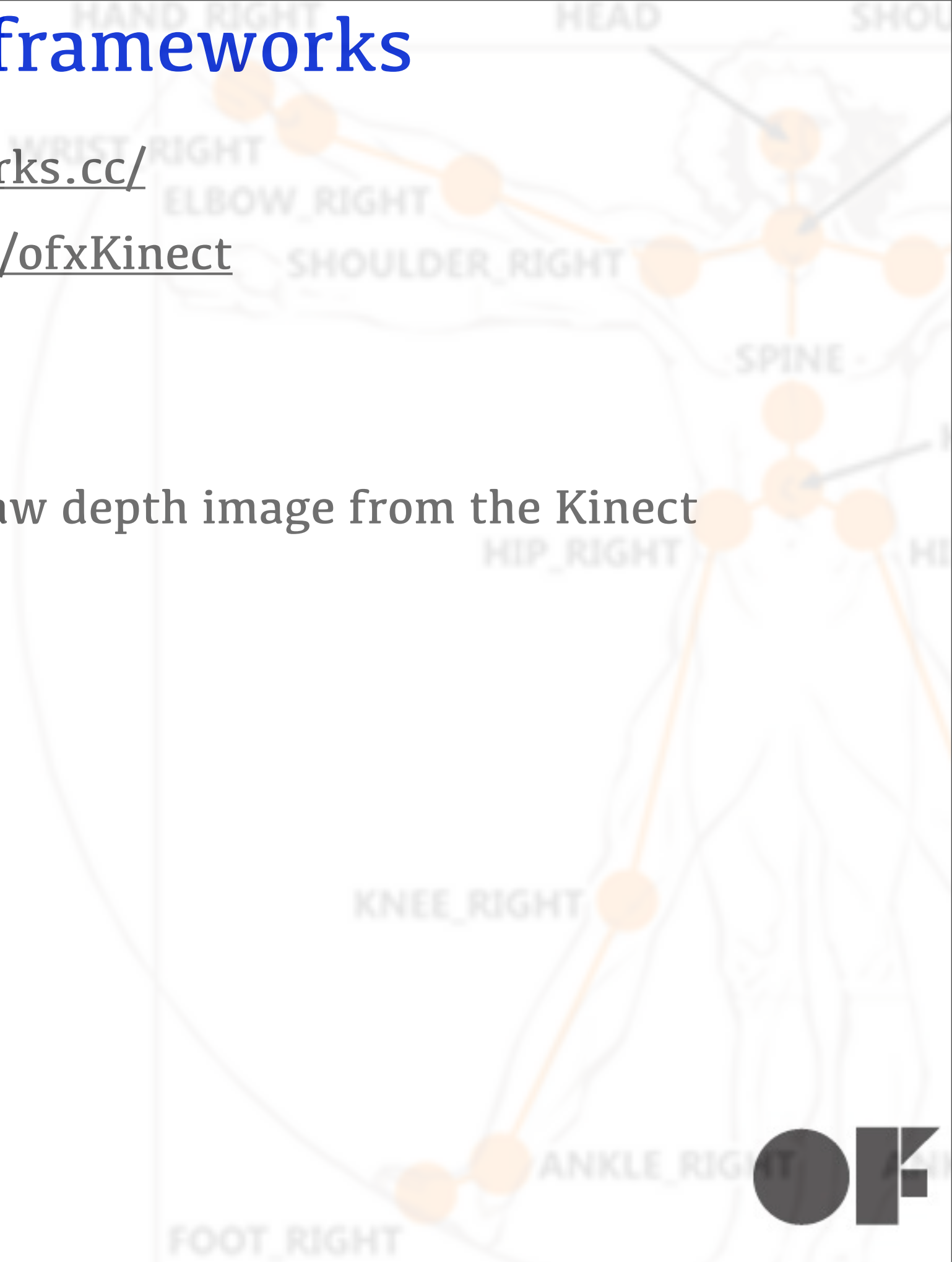


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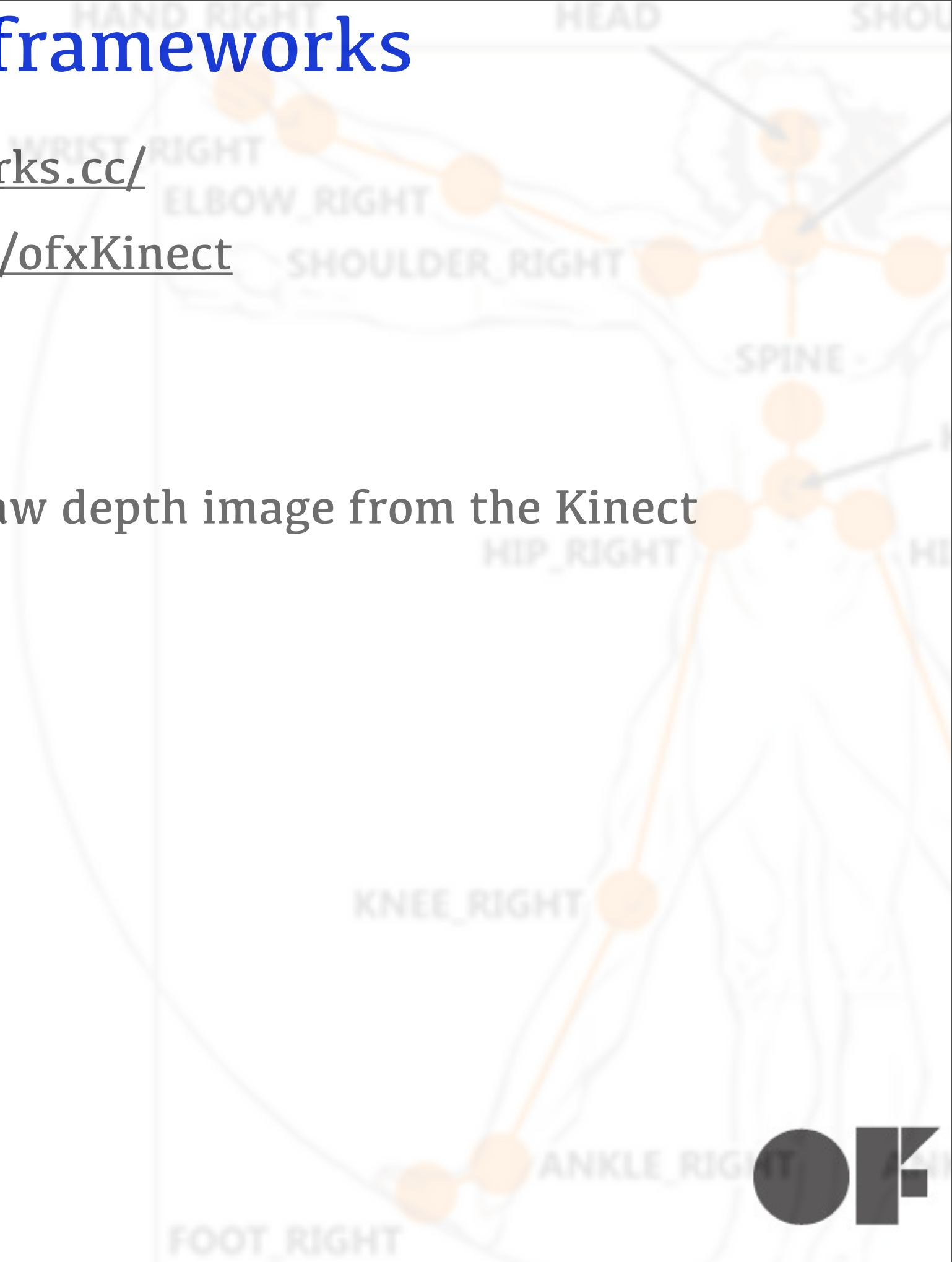


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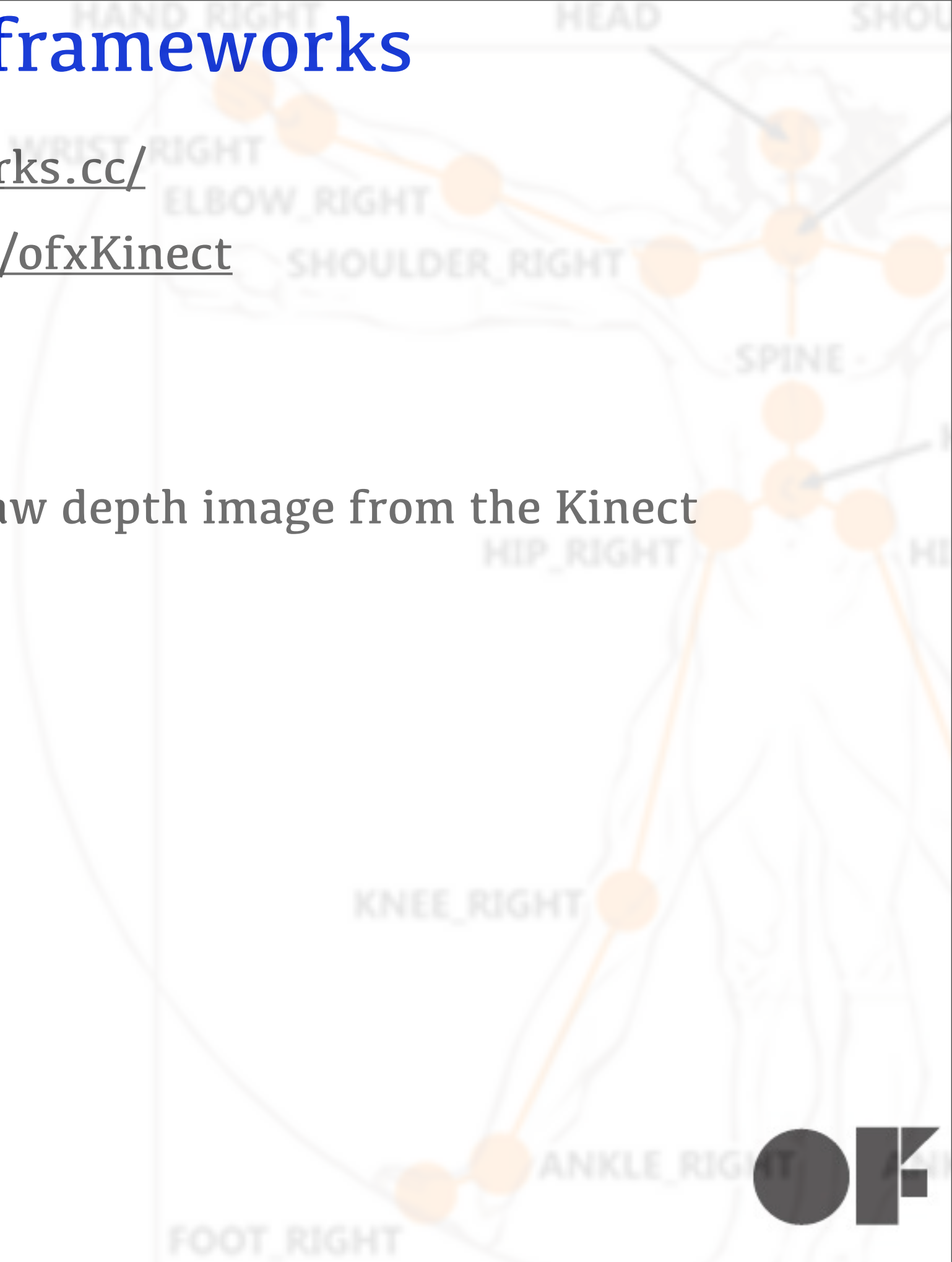


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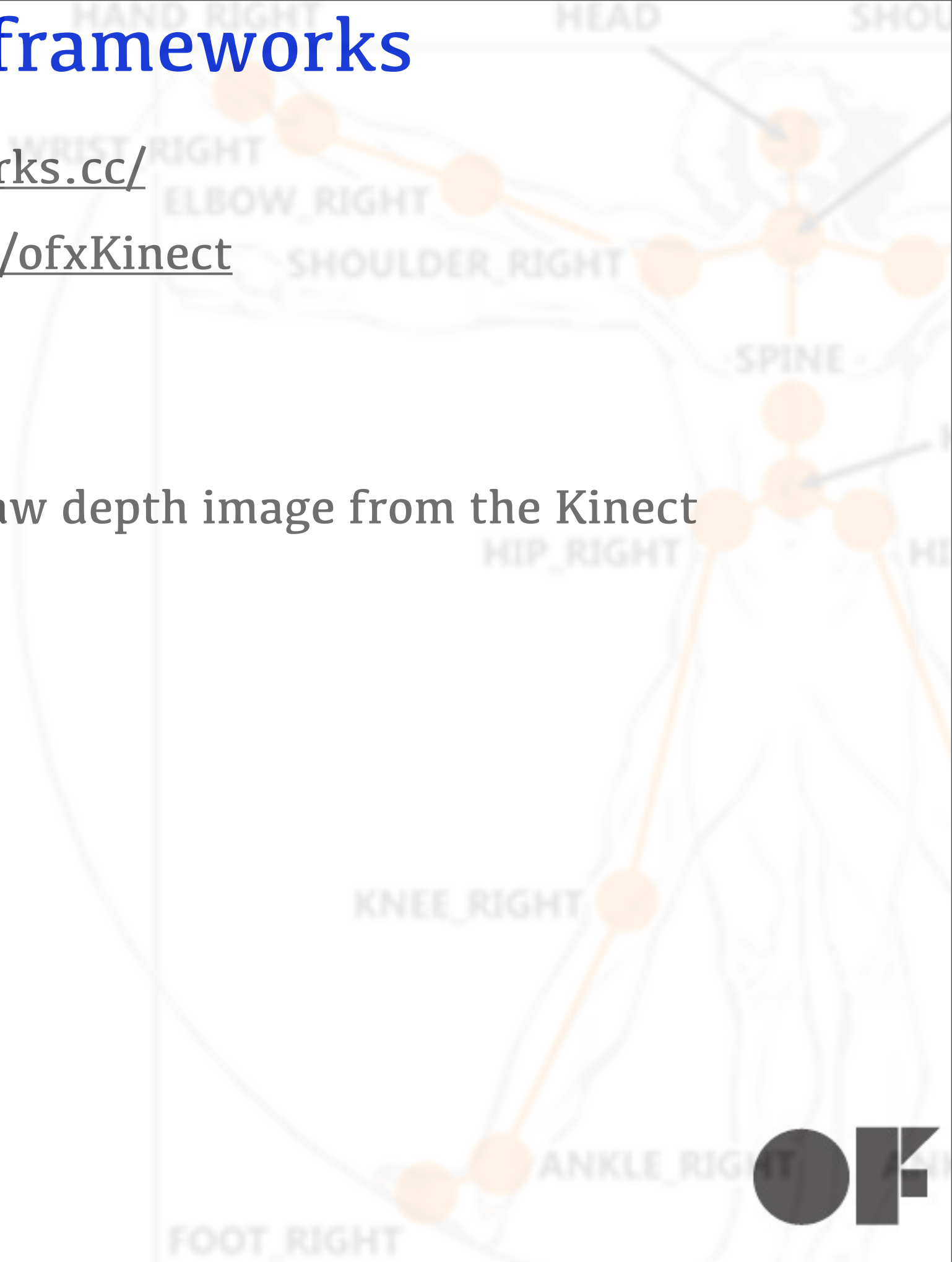
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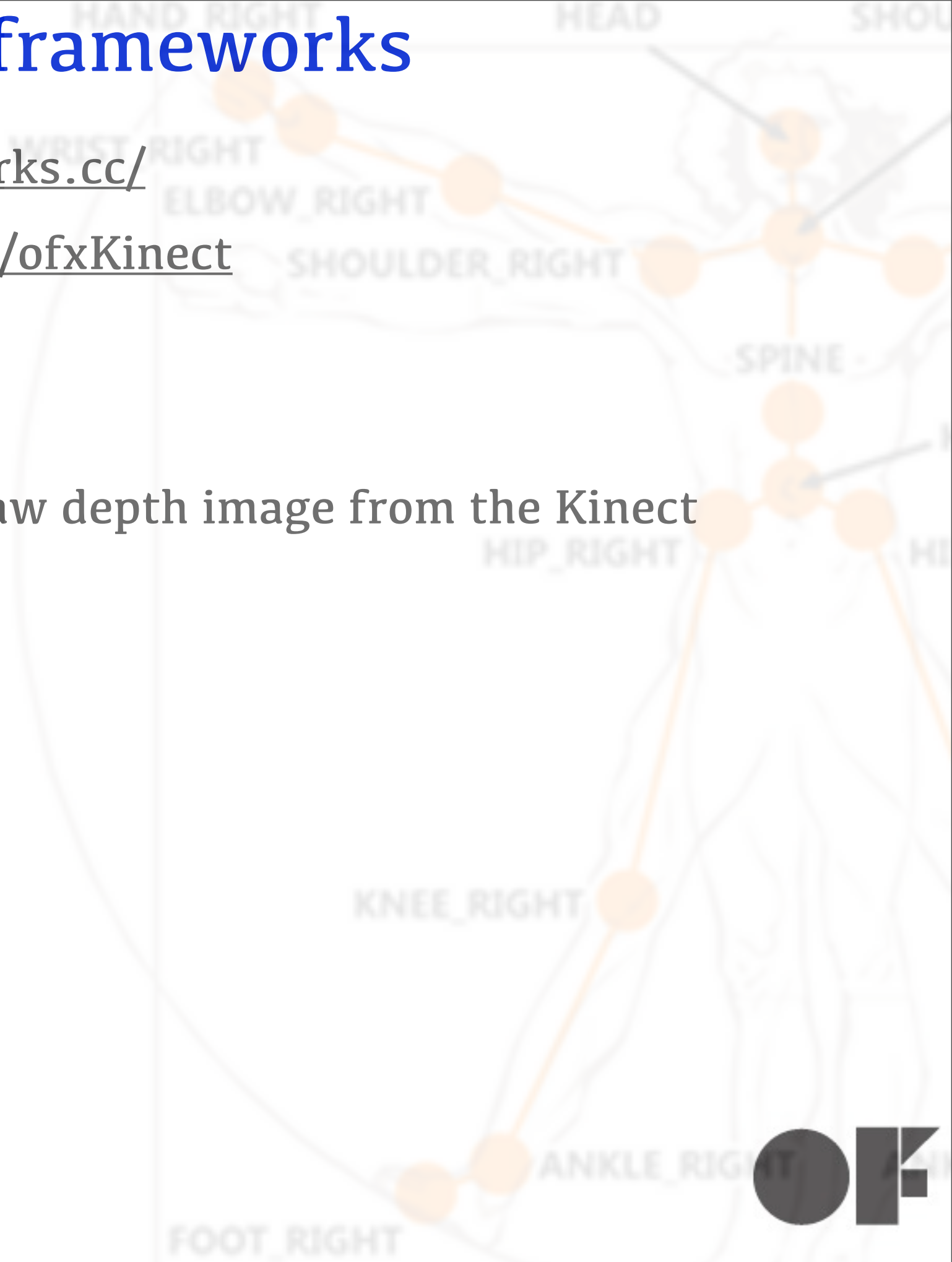
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Disadvantages

- No skeleton tracking



Kinect Gesture Demo



Kinect Gesture Demo

Built Using:



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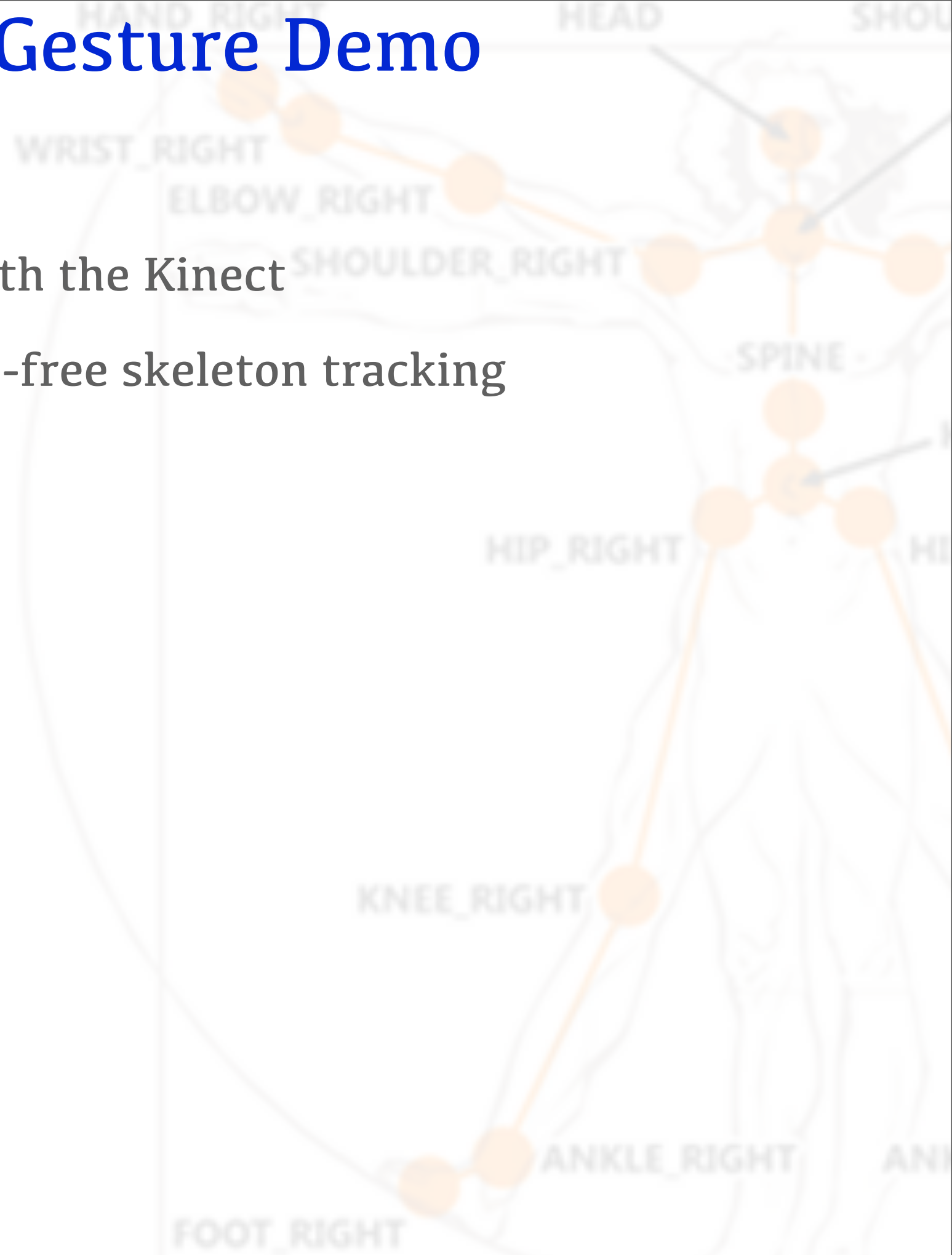
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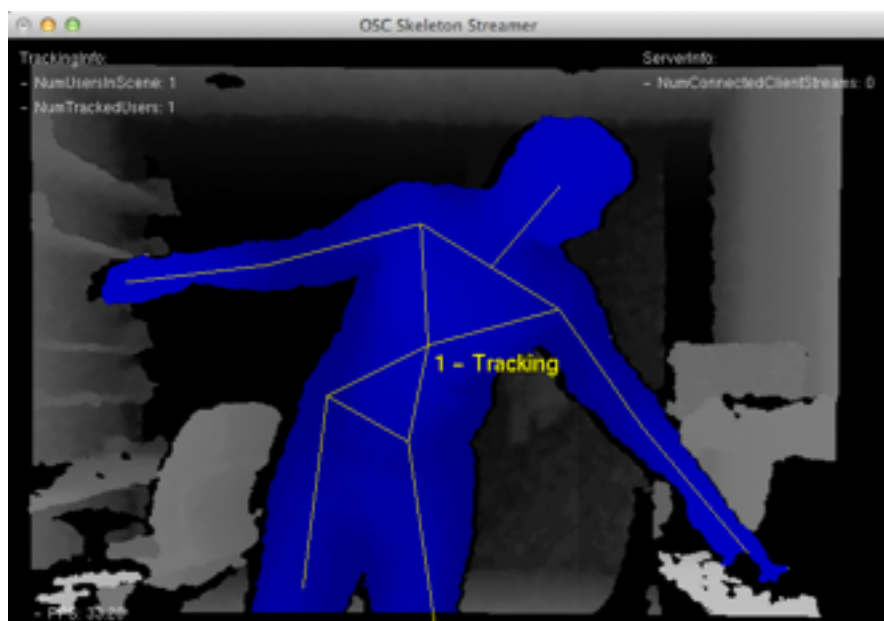
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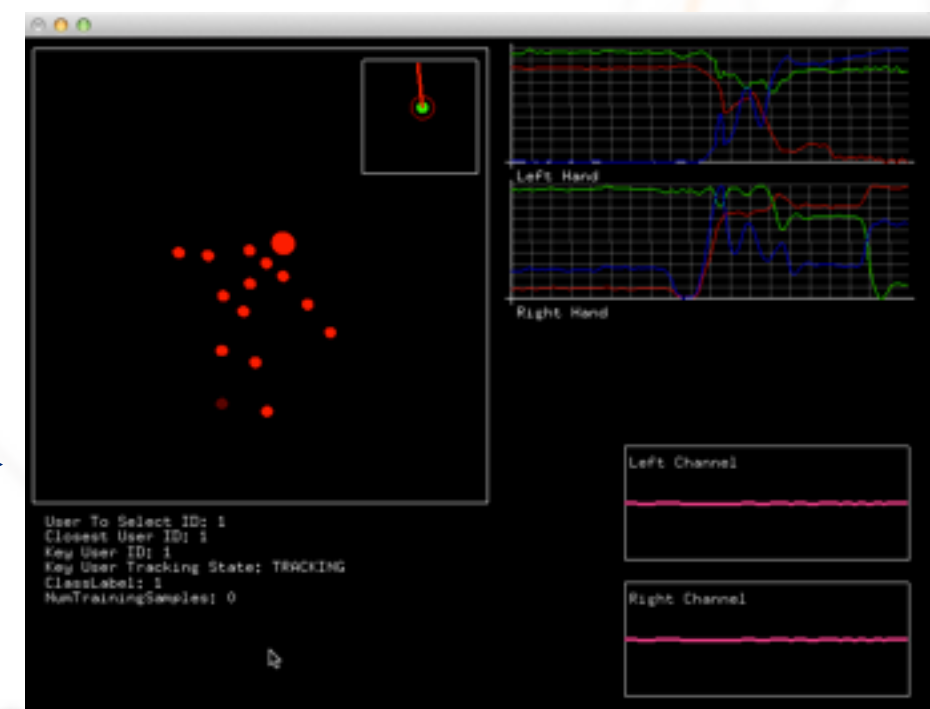
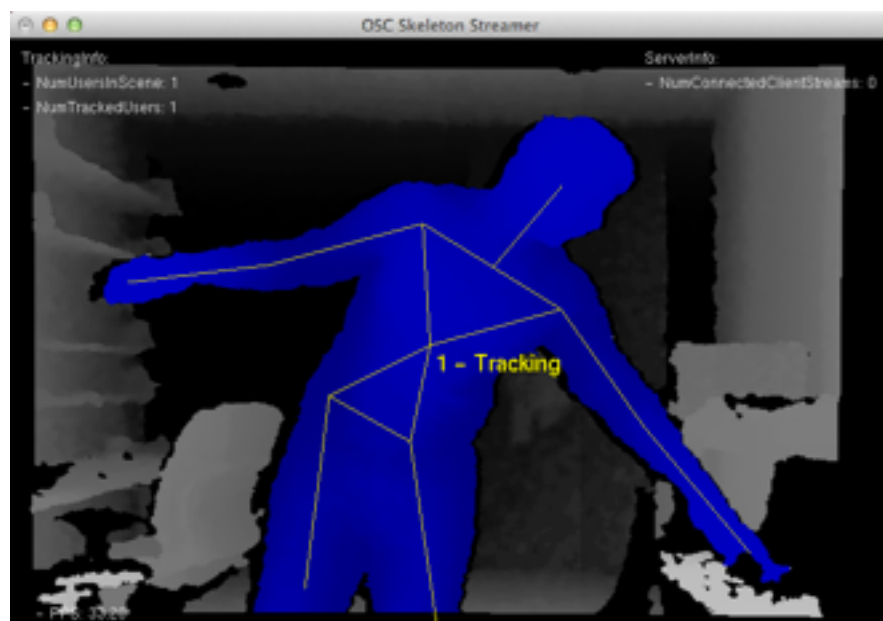
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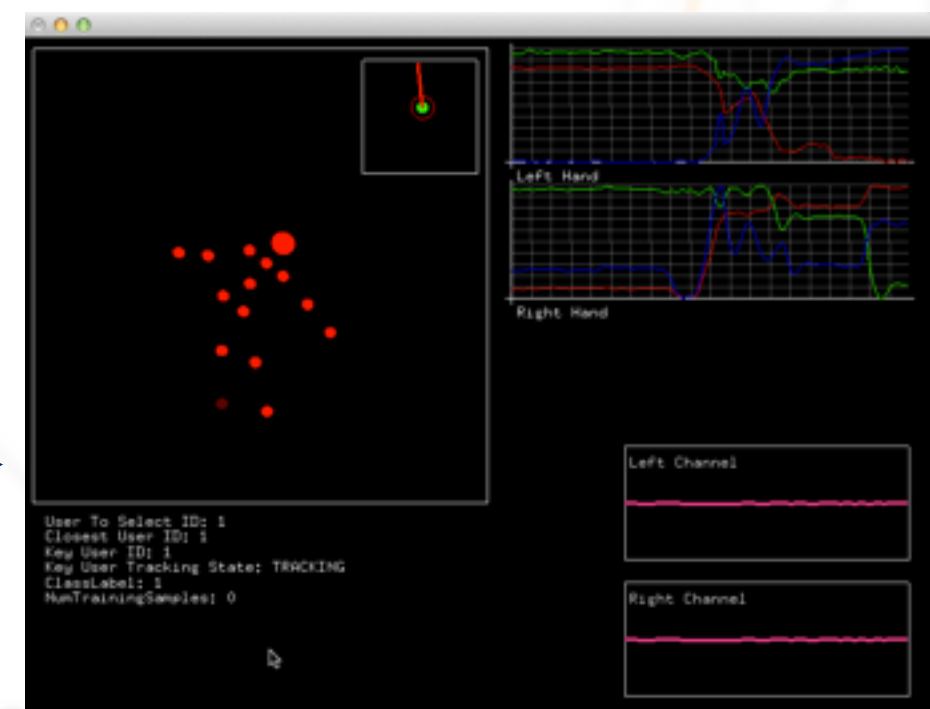
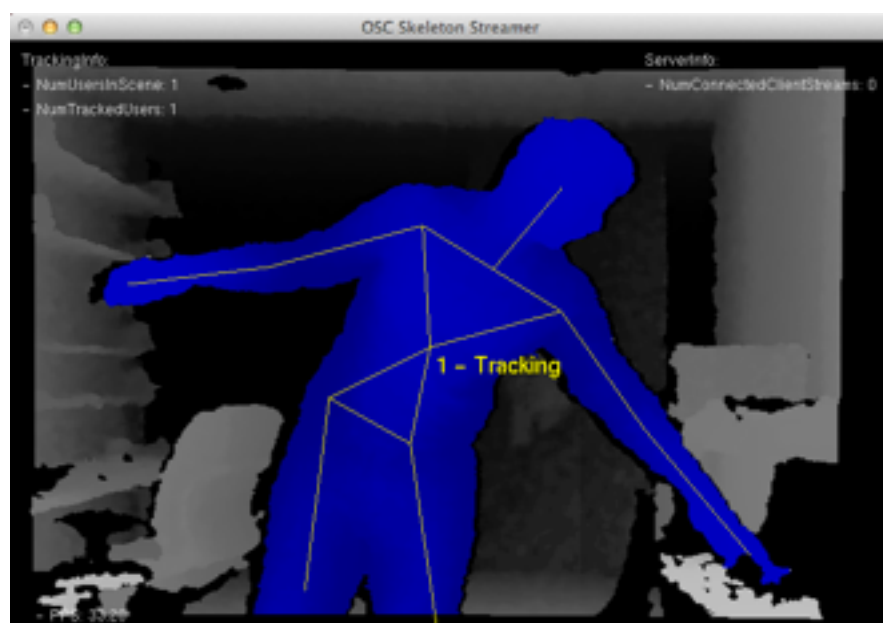
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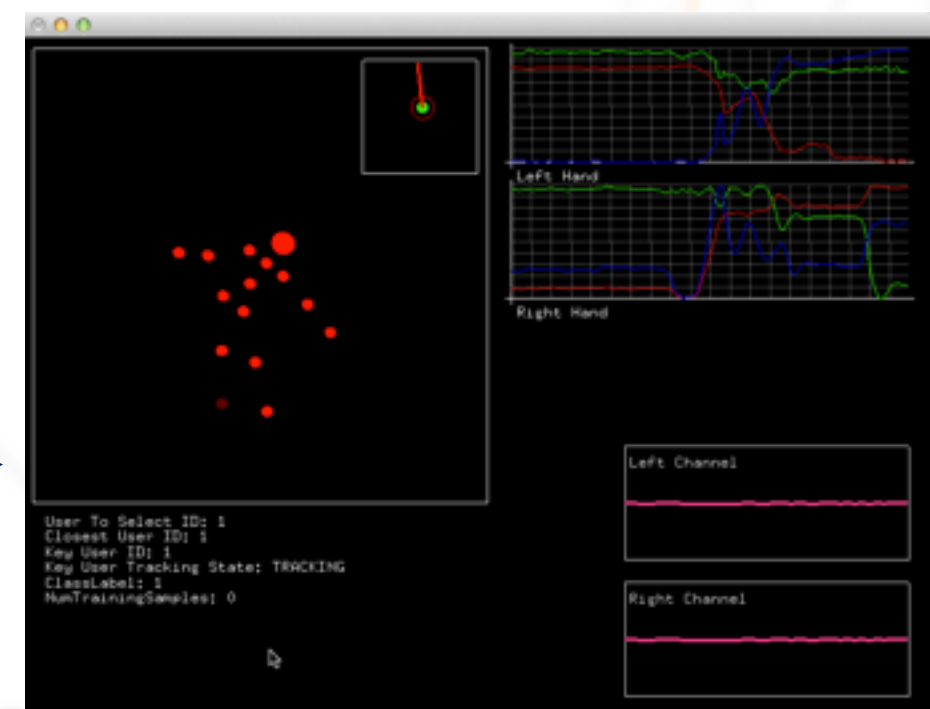
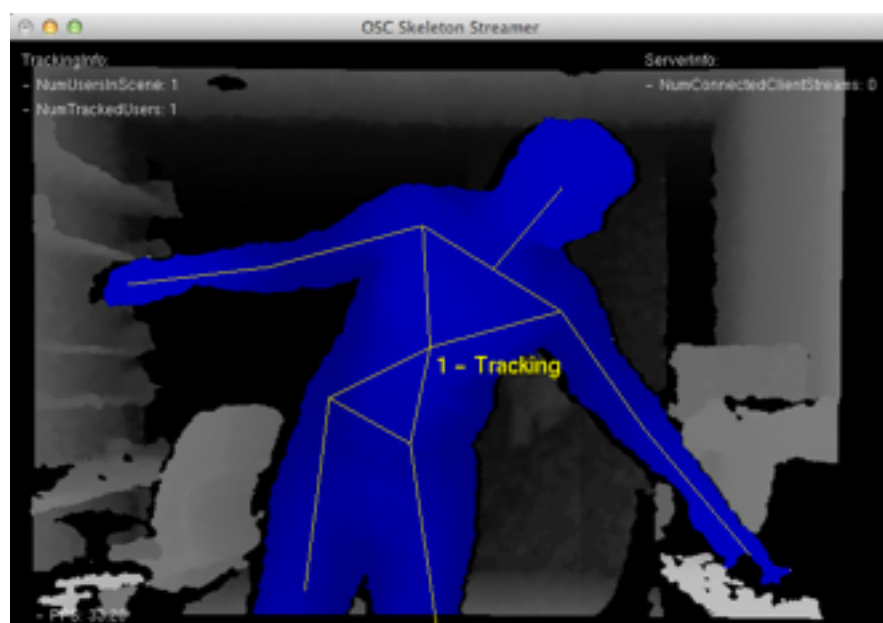
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- **Gesture Recognition Toolkit**: www.nickgillian.com/software/grt



Slides & Software Links

www.nickgillian.com/09-05-13.html

