15-869: References from class 1/19/2012

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   A simple noise function that has been applied to character animation.

2. Lau M, Bar-Joseph Z, Kuffner J. Modeling spatial and temporal variation in motion data. In: *ACM Transactions on Graphics (TOG)*.Vol 28. ACM; 2009:171. Available at: http://dl.acm.org/citation.cfm?id=1618517. Accessed January 19, 2012.

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   A simple inverted pendulum model with ankle stiffness and injected energy can explain movement of the center of mass and center of pressure during quiet standing.

4. Harris CM, Wolpert DM. Signal-dependent noise determines motor planning. *Nature*. 1998;394(August):780-784. Available at: http://www.nature.com/nature/journal/v394/n6695/abs/394780a0.html. Accessed January 19, 2012.

   Noise comes from exertion of the muscles. Fast movements generate more noise / variation than slow ones. This simple principle can explain our choice of how we move to achieve goals in well practiced motions.

5. Todorov E, Jordan MI. Optimal feedback control as a theory of motor coordination. *Nature neuroscience*. 2002;5(11):1226-35. Available at: http://www.ncbi.nlm.nih.gov/pubmed/12404008. Accessed August 1, 2011.

   Our motions can be explained in more detail with a model that says we allow more variability in directions that are not important for a task.

I also mentioned the following book and will shortly send a pdf with a few relevant pages.

Dexterity and
Its Development

Edited by

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With *On Dexterity and Its Development*
by Nicholai A. Bernstein
Translated by Mark L. Latash

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