

Gait Sequence Estimation using Hidden Markov Models

Kouame H. Kouassi
ECE final year
UCT

Final year project presentation

November 16, 2017

Introduction

Things in a Bulleted List

Introduction

Things in a Bulleted List

- Bullets that

Introduction

Things in a Bulleted List

- Bullets that
- Come up

Introduction

Things in a Bulleted List

- Bullets that
- Come up
- One by one

HMM parameters

Equations are easy

- N

HMM parameters

Equations are easy

- N
- T

HMM parameters

Equations are easy

- N
- T
- $Q = q_t$

HMM parameters

Equations are easy

- N
- T
- $Q = q_t$
- K

HMM parameters

Equations are easy

- N
- T
- $Q = q_t$
- K
- $V = \{v_1, v_2, \dots, v_K\}$

HMM parameters

Equations are easy

- N
- T
- $Q = q_t$
- K
- $V = \{v_1, v_2, \dots, v_K\}$
- $\pi = \pi_i$
- $A = \{a_{ij}\}$

HMM parameters

Equations are easy

- N
- T
- $Q = q_t$
- K
- $V = \{v_1, v_2, \dots, v_K\}$
- $\pi = \pi_i$
- $A = \{a_{ij}\}$
- $\Phi = \{\phi_j(k)\}$

HMM parameters

Equations are easy

- N
- T
- $Q = q_t$
- K
- $V = \{v_1, v_2, \dots, v_K\}$
- $\pi = \pi_i$
- $A = \{a_{ij}\}$
- $\Phi = \{\phi_j(k)\}$

$$\mathbf{p}^* = \underset{\mathbf{p}}{\operatorname{argmin}} \sum_{\mathbf{x}} [I(\mathbf{W}(\mathbf{x}; \mathbf{p})) - T(\mathbf{x})]^2$$

Three basics HMM problems

Things in a Bulleted List

Three basics HMM problems

Things in a Bulleted List

- The Evaluation Problem

Three basics HMM problems

Things in a Bulleted List

- The Evaluation Problem
- The Decoding Problem

Three basics HMM problems

Things in a Bulleted List

- The Evaluation Problem
- The Decoding Problem
- The Training Problem

Pictures



(a) First Frame



(b) Middle Frame



(c) Last Frame

A Movie

- Movies only seem to work in Adobe Reader
- Movie file is not embedded, it must be on the computer

Credits

- Brought to you by www.shawnlankton.com
- Please let me know about improvements!
- This was supposed to look like a KeyNote Show
- inspiration: <http://www.ucl.ac.uk/ucbpeal/latexposter.html>
- inspiration: [http://newsgroups.derkeiler.com/...](http://newsgroups.derkeiler.com/) (in code)

Questions