Procesamiento del Habla, Visión e Interacción Multimodal

Práctica 5: Síntesis de Formantes con Klatt

Grado en Ingeniería Informática

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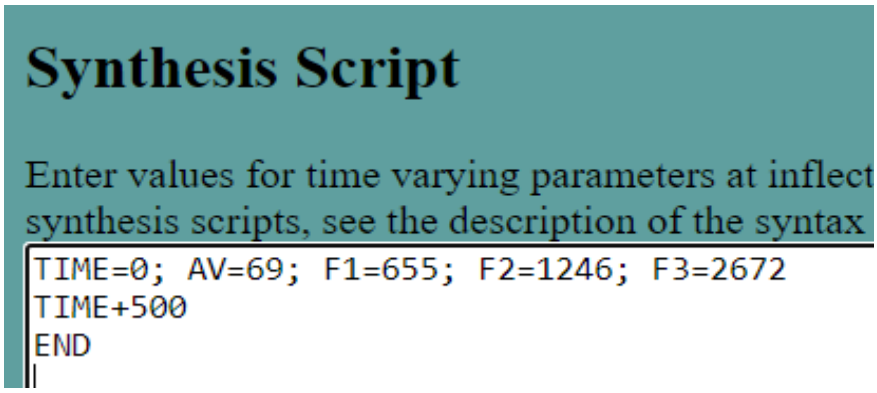
Ejercicio 1: Síntesis de formantes con Klatt y ayuda de Praat.

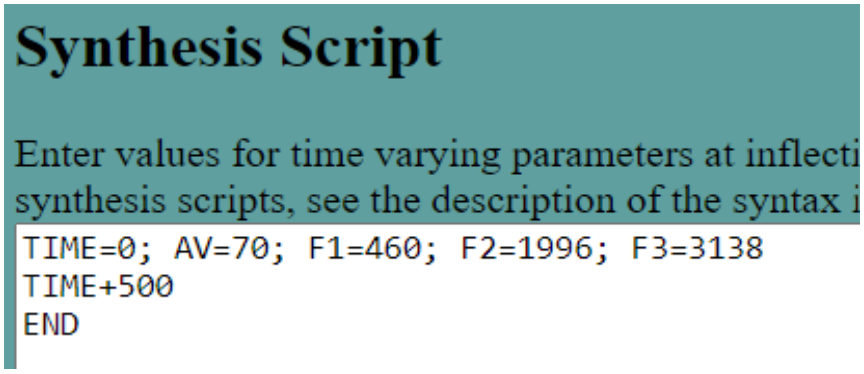
Para este ejercicio se estudiará el archivo aeiou-Ramirez.wav con Praat con el fin de encontrar los valores de los tres primeros formantes (get first/second/third formant en Praat) para cada una de las vocales y, a continuación, trataremos de sintetizar dichos sonidos con Klatt a partir de los valores obtenidos previamente.

Para las vocales tenemos:

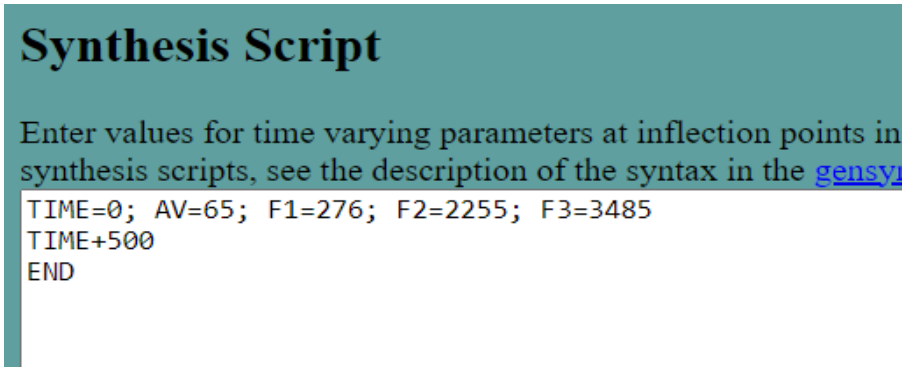
- **A**:



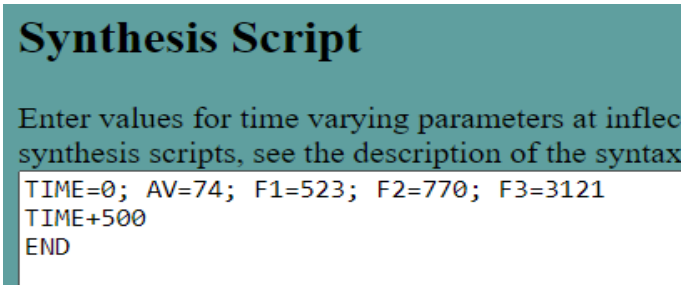
- **E**:



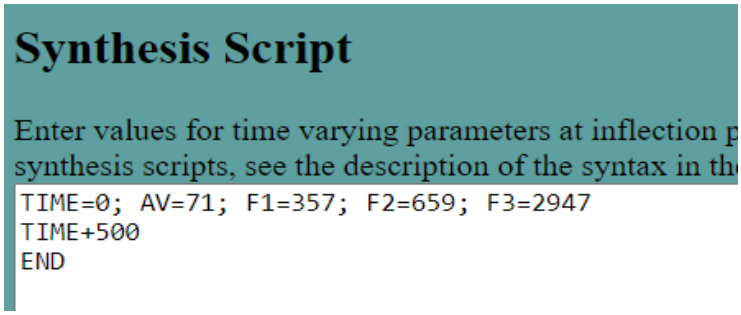
- **I**:



- **O**:

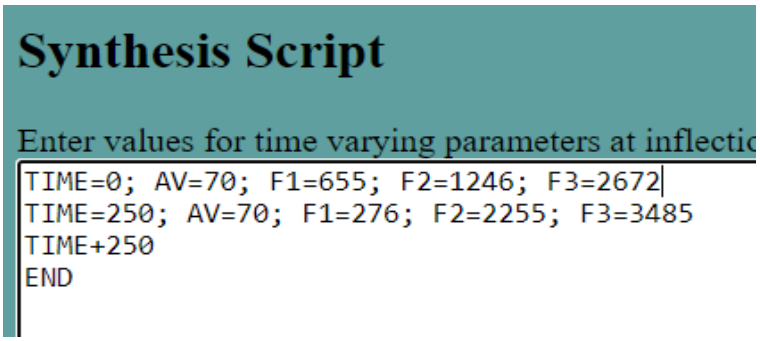


- **U**:

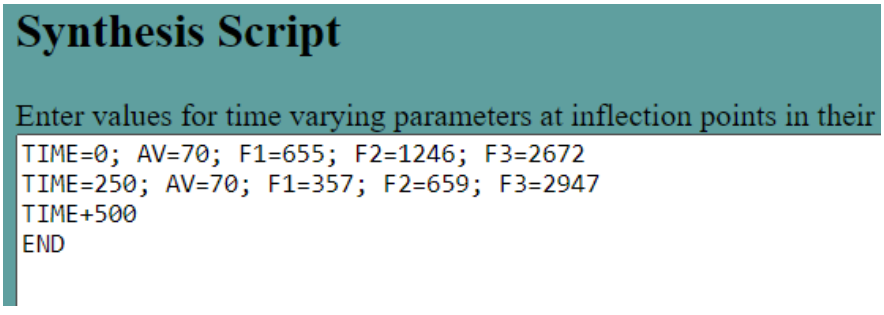


Para los diptongos se han seleccionado los valores de los formantes anteriores y se han combinado cada una de las vocales débiles (i,u) con el resto de vocales:

- **AI**:



- **AU**:



- **IA**:

Synthesis Script

Enter values for time varying parameters at inflection points

```
TIME=0; AV=70; F1=276; F2=2255; F3=3485
TIME=250; AV=70; F1=655; F2=1246; F3=2672
TIME+250
END
```

- **UA**:

Synthesis Script

Enter values for time varying parameters at inflection p

```
TIME=0; AV=70; F1=357; F2=659; F3=2947
TIME=250; AV=70; F1=655; F2=1246; F3=2672
TIME+250
END
```

- **UI**:

Synthesis Script

Enter values for time varying parameters at inflect

```
TIME=0; AV=70; F1=357; F2=659; F3=2947
TIME=250; AV=70; F1=276; F2=2255; F3=3485
TIME+250
END
```

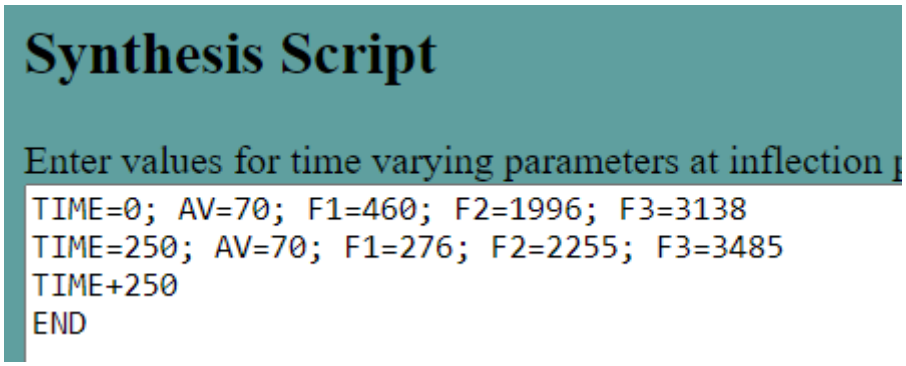
- **IU**:

Synthesis Script

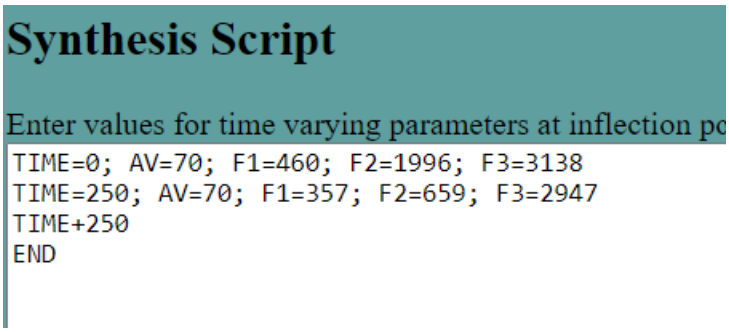
Enter values for time varying parameters at inflection

```
TIME=0; AV=70; F1=276; F2=2255; F3=3485
TIME=250; AV=70; F1=357; F2=659; F3=2947
TIME+250
END
```

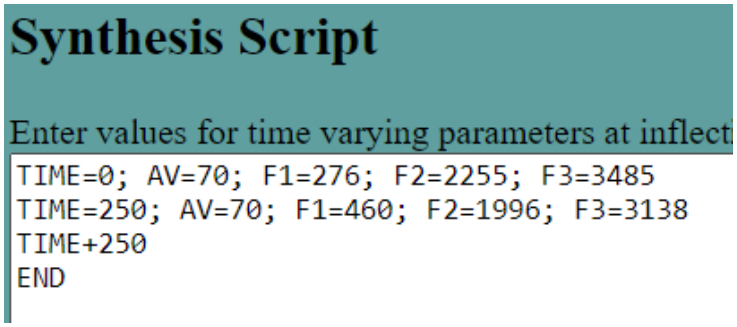
- **EI**:


Synthesis Script
Enter values for time varying parameters at inflection
TIME=0; AV=70; F1=460; F2=1996; F3=3138
TIME=250; AV=70; F1=276; F2=2255; F3=3485
TIME+250
END

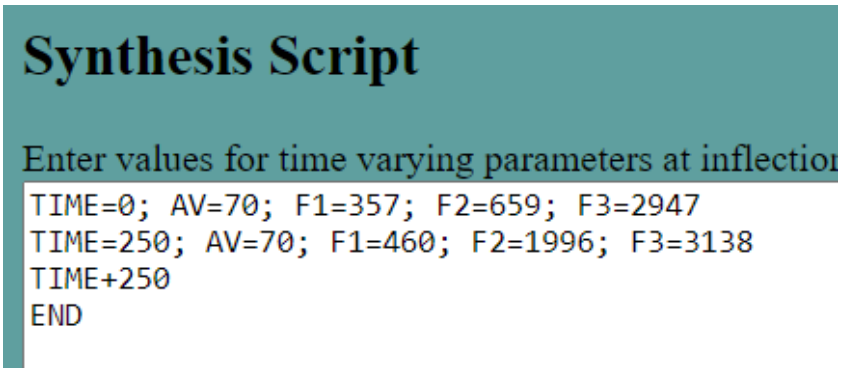
- **EU**:


Synthesis Script
Enter values for time varying parameters at inflection pc
TIME=0; AV=70; F1=460; F2=1996; F3=3138
TIME=250; AV=70; F1=357; F2=659; F3=2947
TIME+250
END

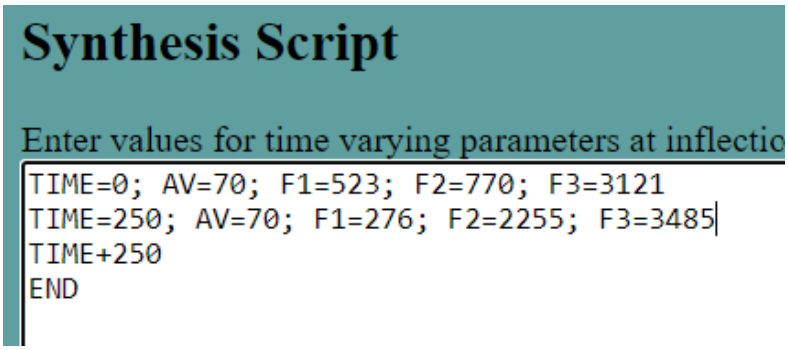
- **IE**:


Synthesis Script
Enter values for time varying parameters at inflect
TIME=0; AV=70; F1=276; F2=2255; F3=3485
TIME=250; AV=70; F1=460; F2=1996; F3=3138
TIME+250
END

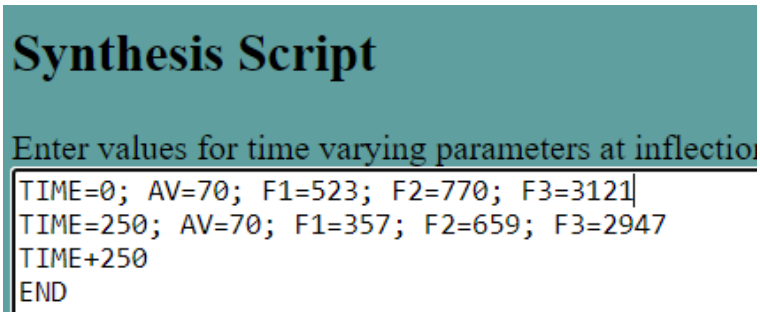
- **UE**:


Synthesis Script
Enter values for time varying parameters at inflectio
TIME=0; AV=70; F1=357; F2=659; F3=2947
TIME=250; AV=70; F1=460; F2=1996; F3=3138
TIME+250
END

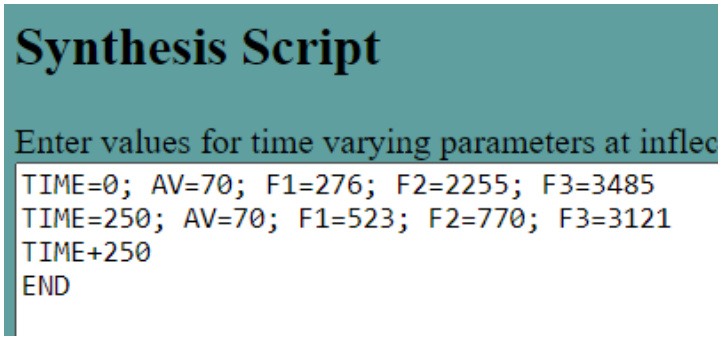
- **OI**:


Synthesis Script
Enter values for time varying parameters at inflectio
TIME=0; AV=70; F1=523; F2=770; F3=3121
TIME=250; AV=70; F1=276; F2=2255; F3=3485
TIME+250
END

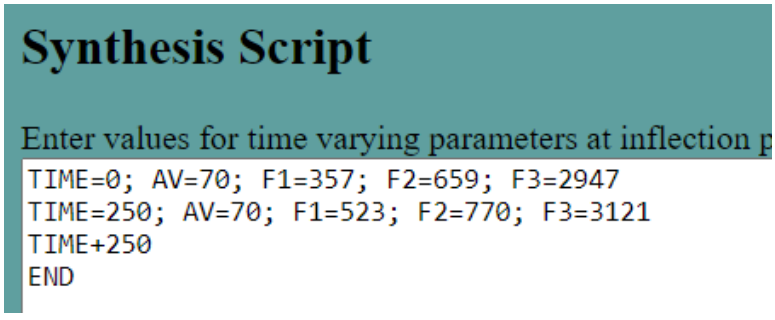
- **OU**:


Synthesis Script
Enter values for time varying parameters at inflectio
TIME=0; AV=70; F1=523; F2=770; F3=3121
TIME=250; AV=70; F1=357; F2=659; F3=2947
TIME+250
END

- **IO**:


Synthesis Script
Enter values for time varying parameters at inflec
TIME=0; AV=70; F1=276; F2=2255; F3=3485
TIME=250; AV=70; F1=523; F2=770; F3=3121
TIME+250
END

- **UO**:


Synthesis Script
Enter values for time varying parameters at inflection p
TIME=0; AV=70; F1=357; F2=659; F3=2947
TIME=250; AV=70; F1=523; F2=770; F3=3121
TIME+250
END

Para analizar la /a con diferentes entonaciones (ascendente, sostenida y descendente), modificaremos la frecuencia fundamental:

- **Ascendente**:

Synthesis Script

Enter values for time varying parameters at inflection points in t

```
TIME=0; AV=70; F0 = 0; F1=655; F2=1246; F3=2672
TIME=200; AV=70; F0 = 50; F1=655; F2=1246; F3=2672
TIME=400; AV=70; F0 = 100; F1=655; F2=1246; F3=2672
TIME=600; AV=70; F0 = 150; F1=655; F2=1246; F3=2672
TIME+200
END
```

- **Sostenida**:

Synthesis Script

Enter values for time varying parameters at inflection points in t

```
TIME=0; AV=70; F0 = 50; F1=655; F2=1246; F3=2672
TIME=200; AV=70; F0 = 50; F1=655; F2=1246; F3=2672
TIME=400; AV=70; F0 = 50; F1=655; F2=1246; F3=2672
TIME+200
END
```

- **Descendente**:

Synthesis Script

Enter values for time varying parameters at inflection points in th

```
TIME=0; AV=70; F0 = 150; F1=655; F2=1246; F3=2672
TIME=200; AV=70; F0 = 100; F1=655; F2=1246; F3=2672
TIME=400; AV=70; F0 = 50; F1=655; F2=1246; F3=2672
TIME=600; AV=70; F0 = 0; F1=655; F2=1246; F3=2672
TIME+200
END
```