Deep Learning
Autoencoders

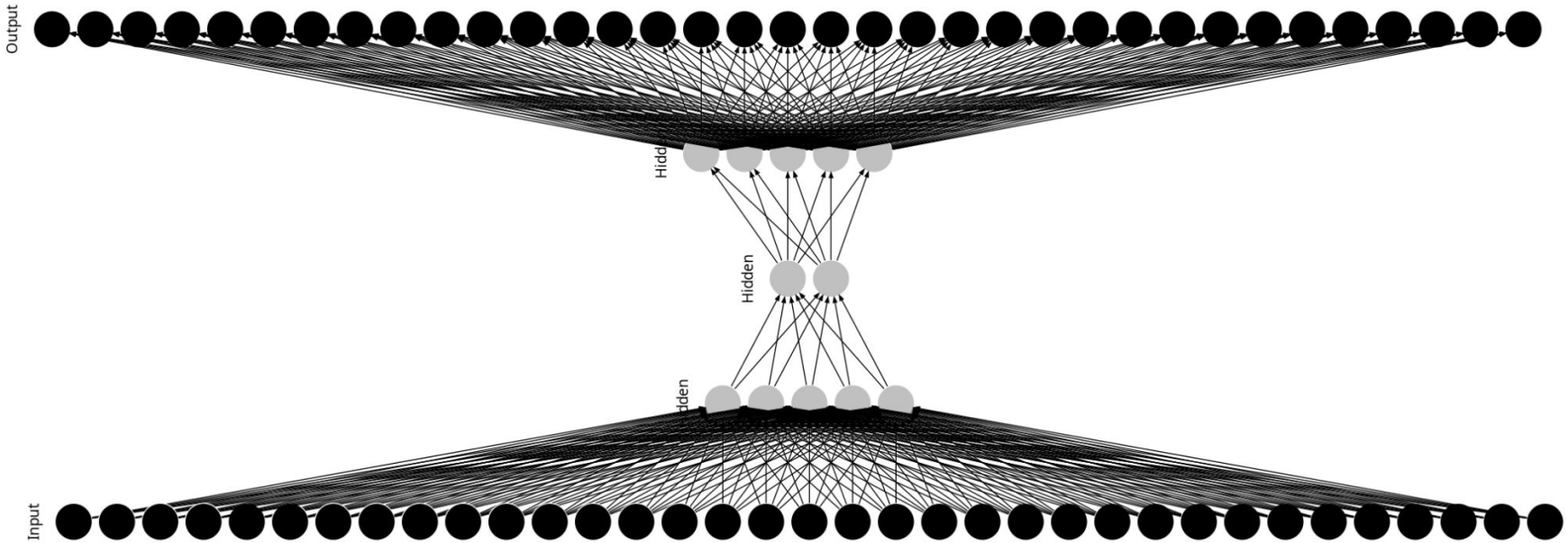
Gomez, Lucas

Volcovinsky, Bruno

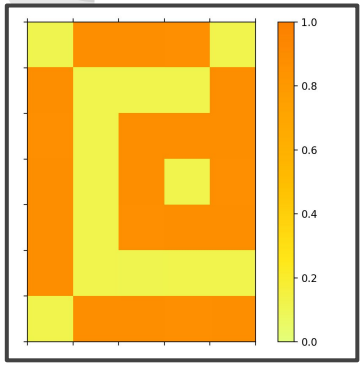
Sartorio, Alan

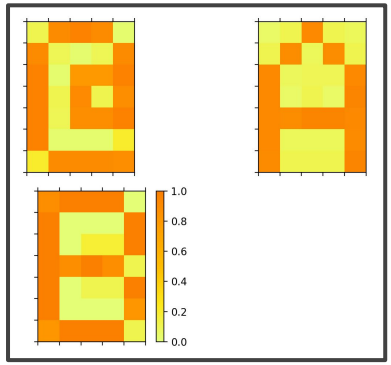
Ejercicio 1
Lista de caracteres

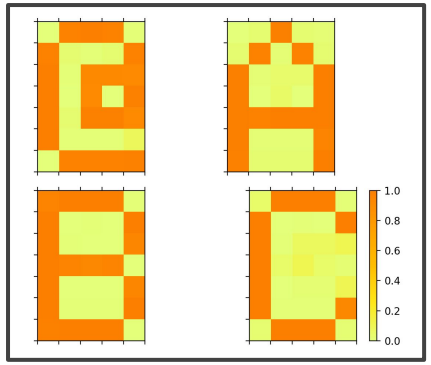
Estructuras de la red

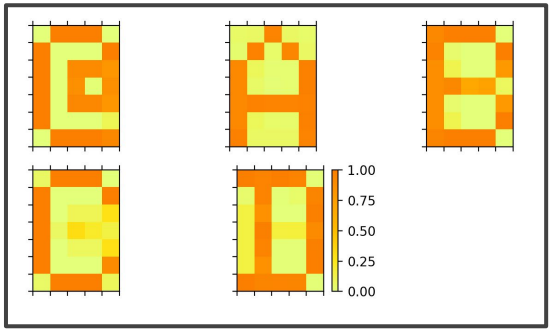


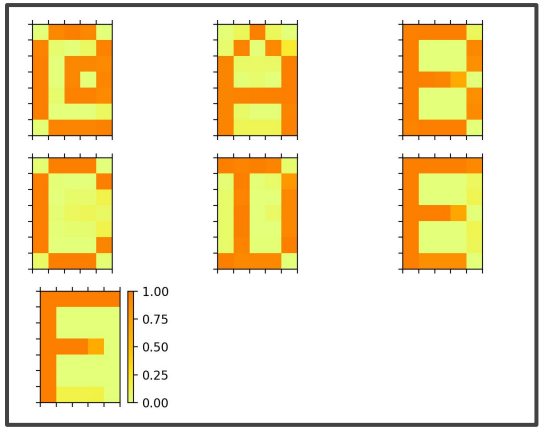
Salidas generadas

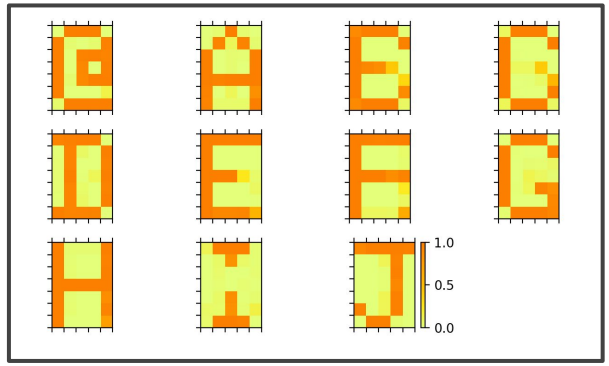




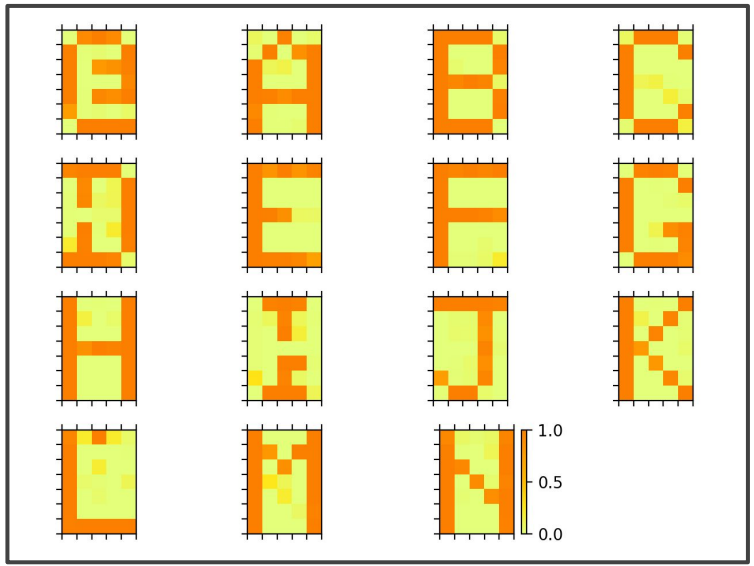


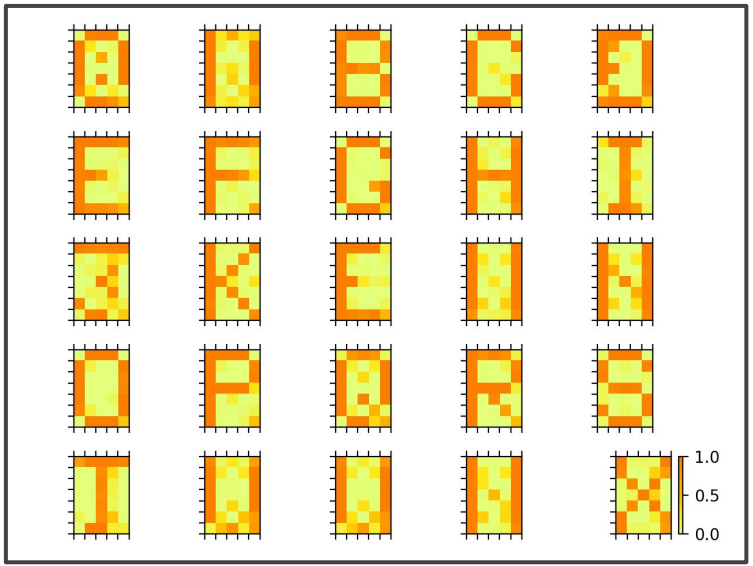




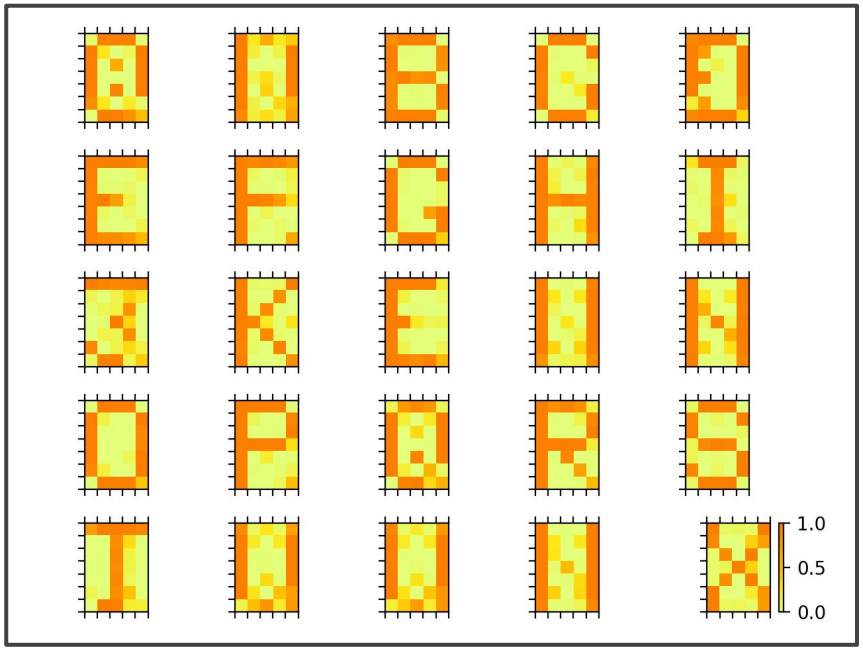


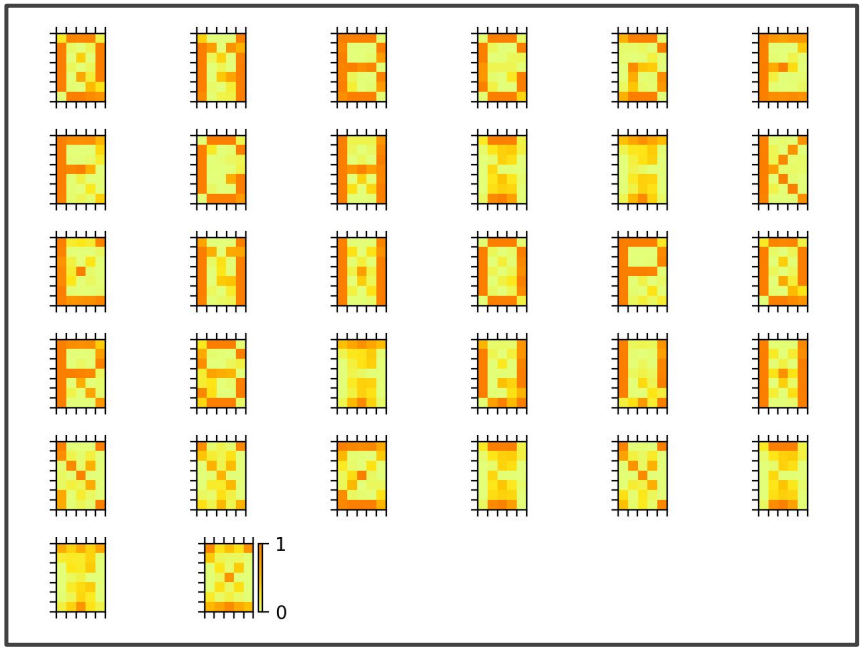
Salidas generadas



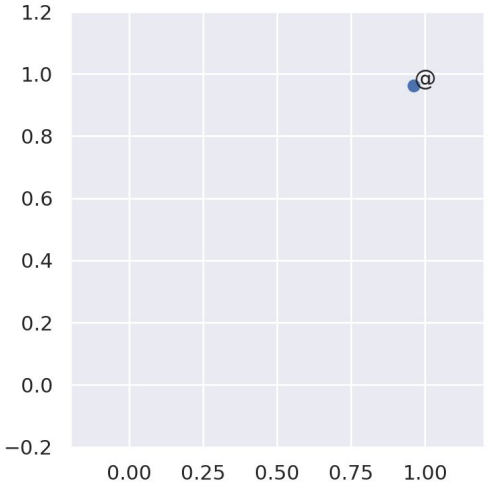


Salidas generadas

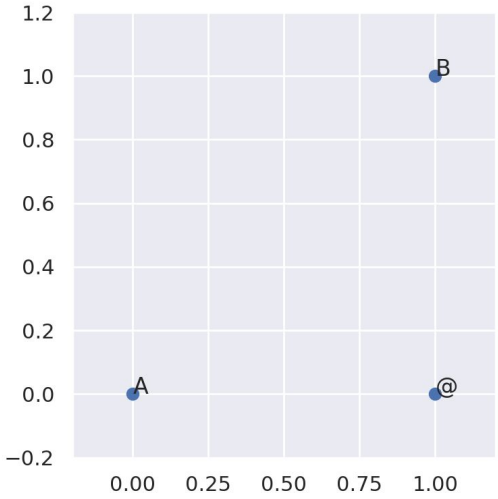




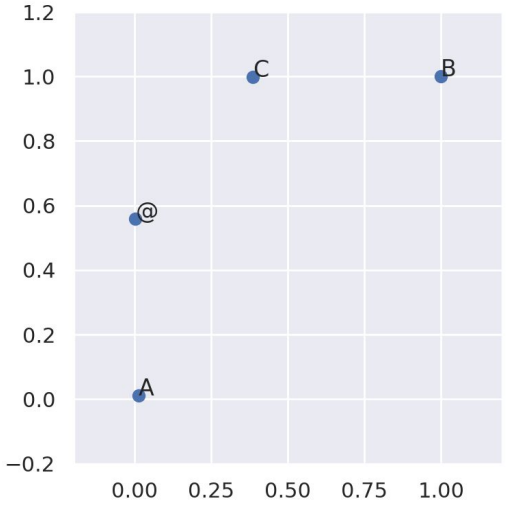
Representación en 2 dimensiones



1 letra

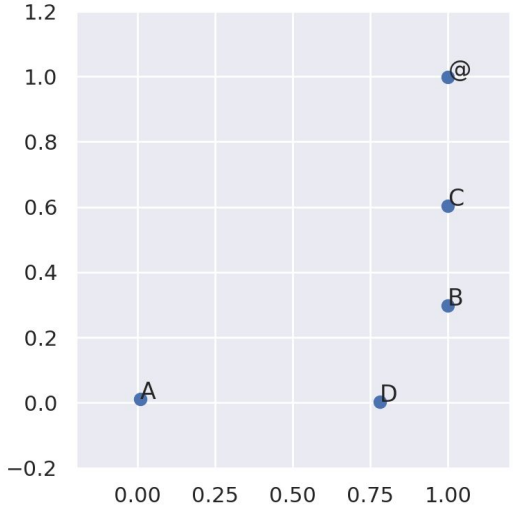


3 letras

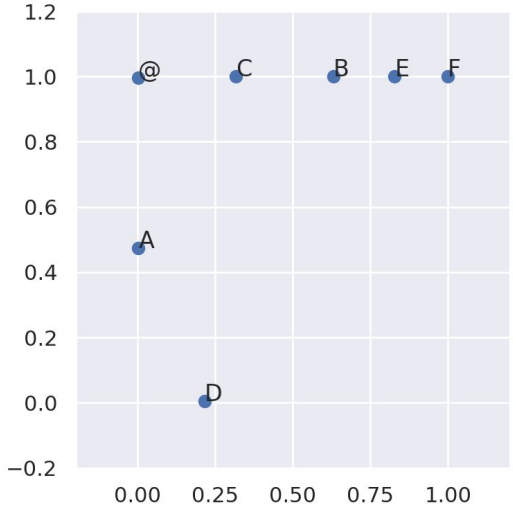


4 letras

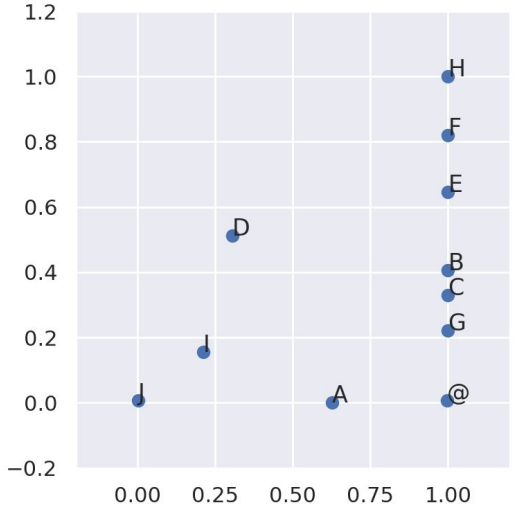
Representación en 2 dimensiones



5 letras

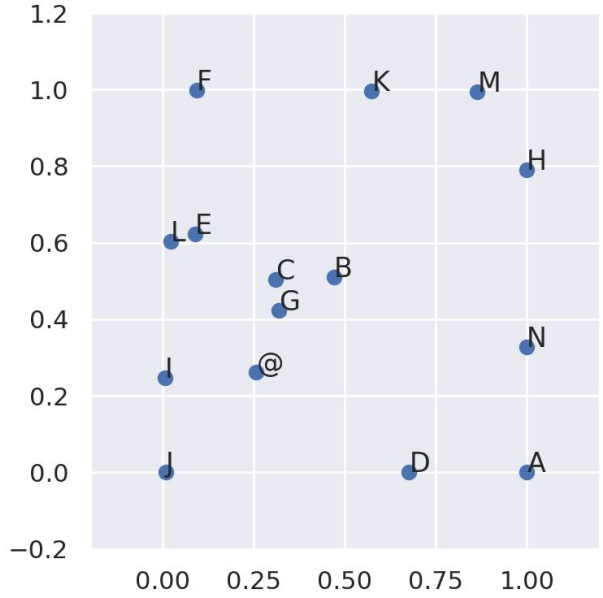


7 letras

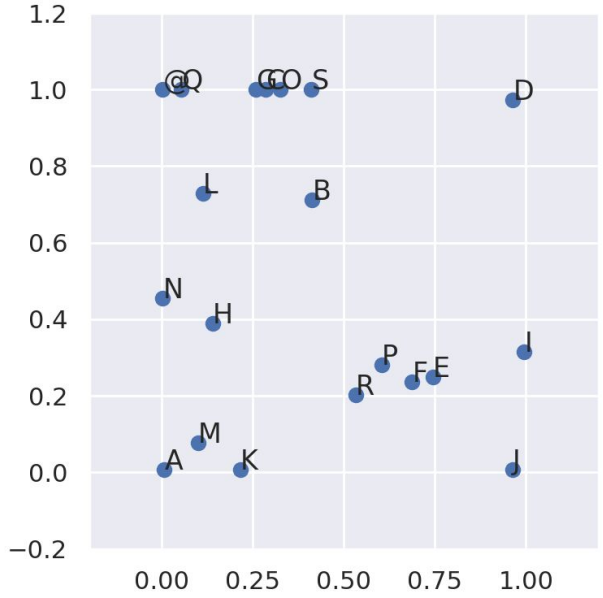


11 letras

Representación en 2 dimensiones

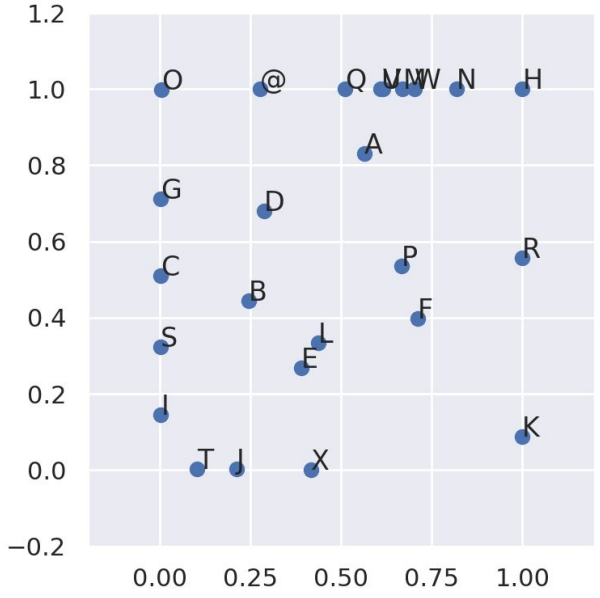


15 letras

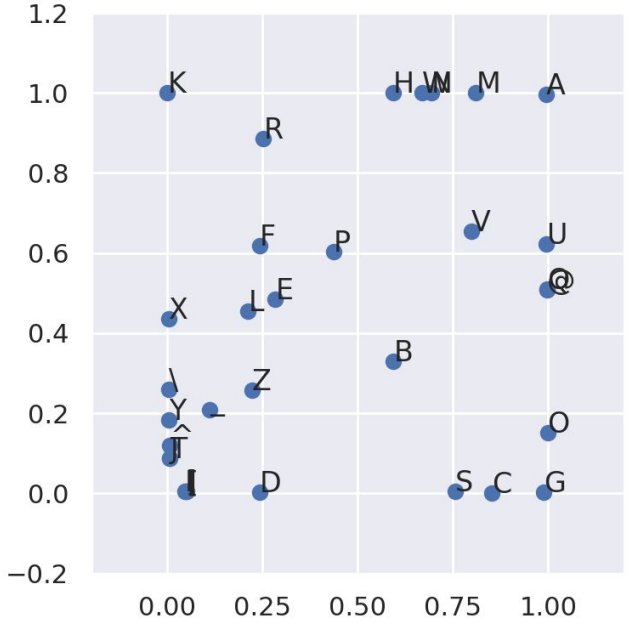


20 letras

Representación en 2 dimensiones

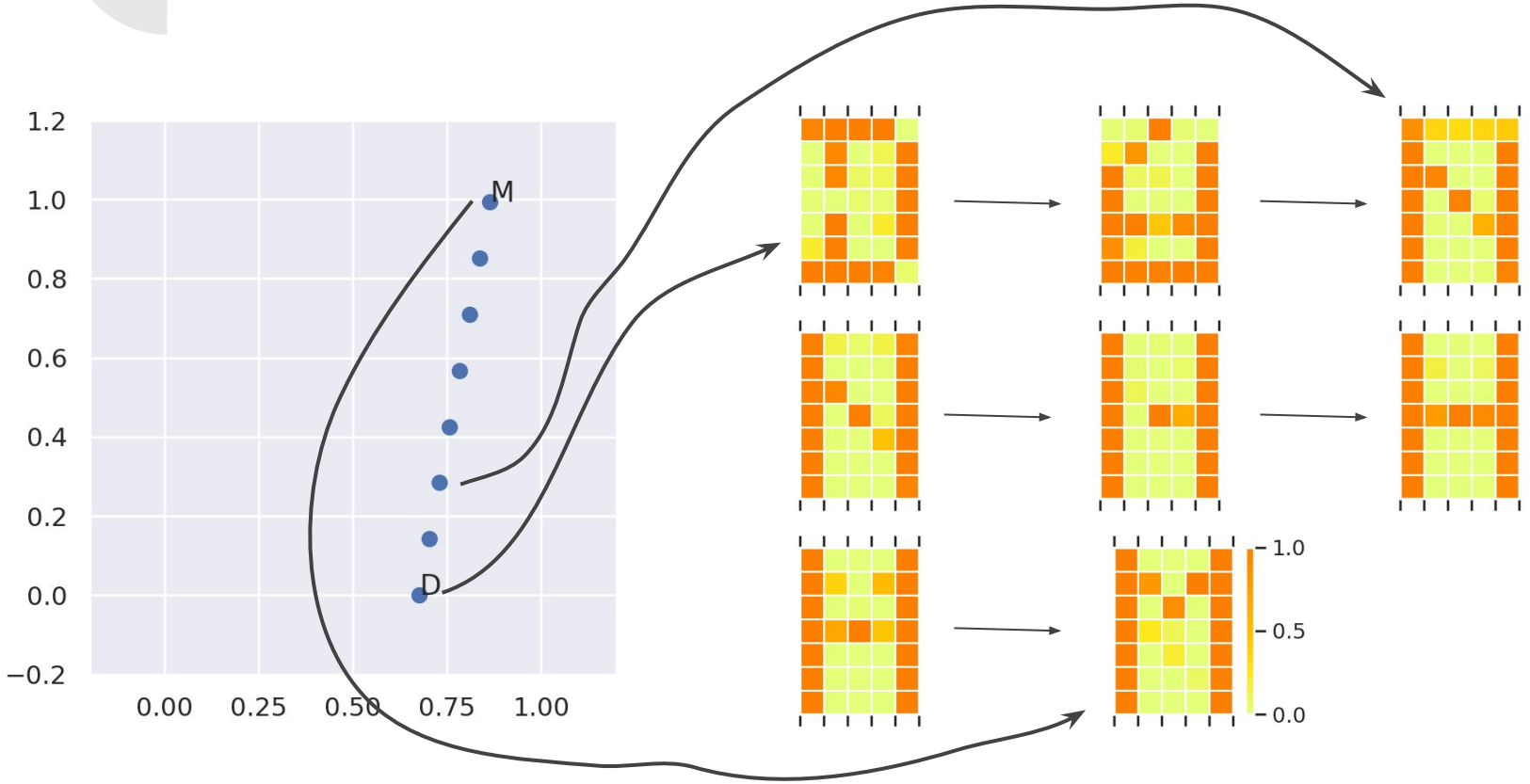


25 letras

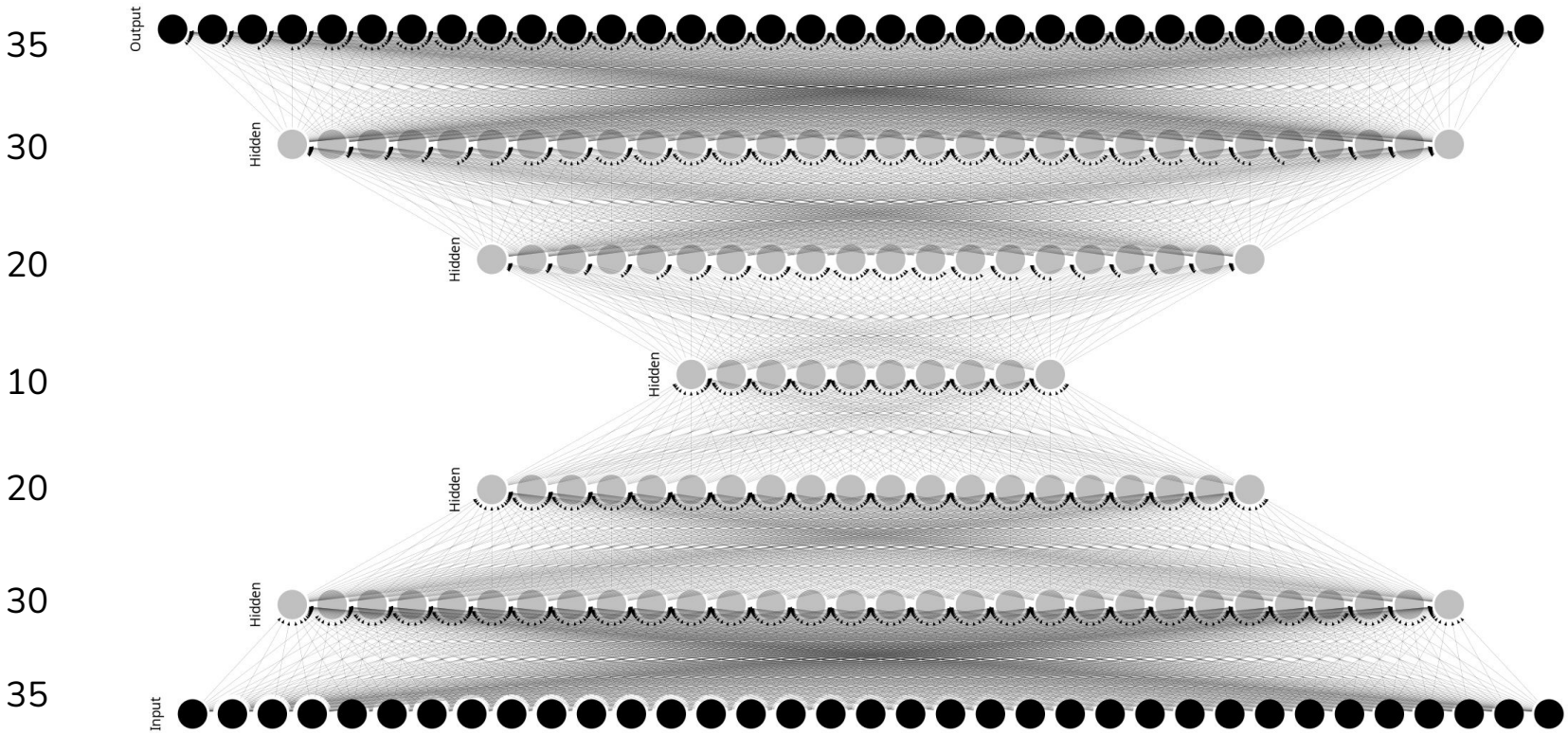


32 letras

Nuevas letras

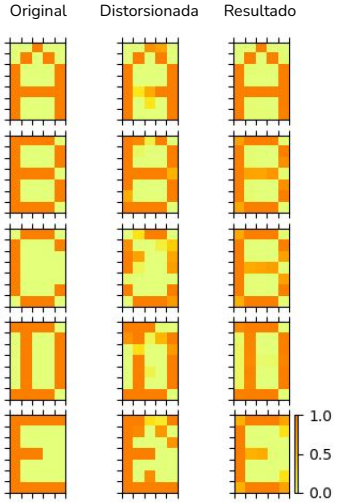


DAE - Estructura de la red



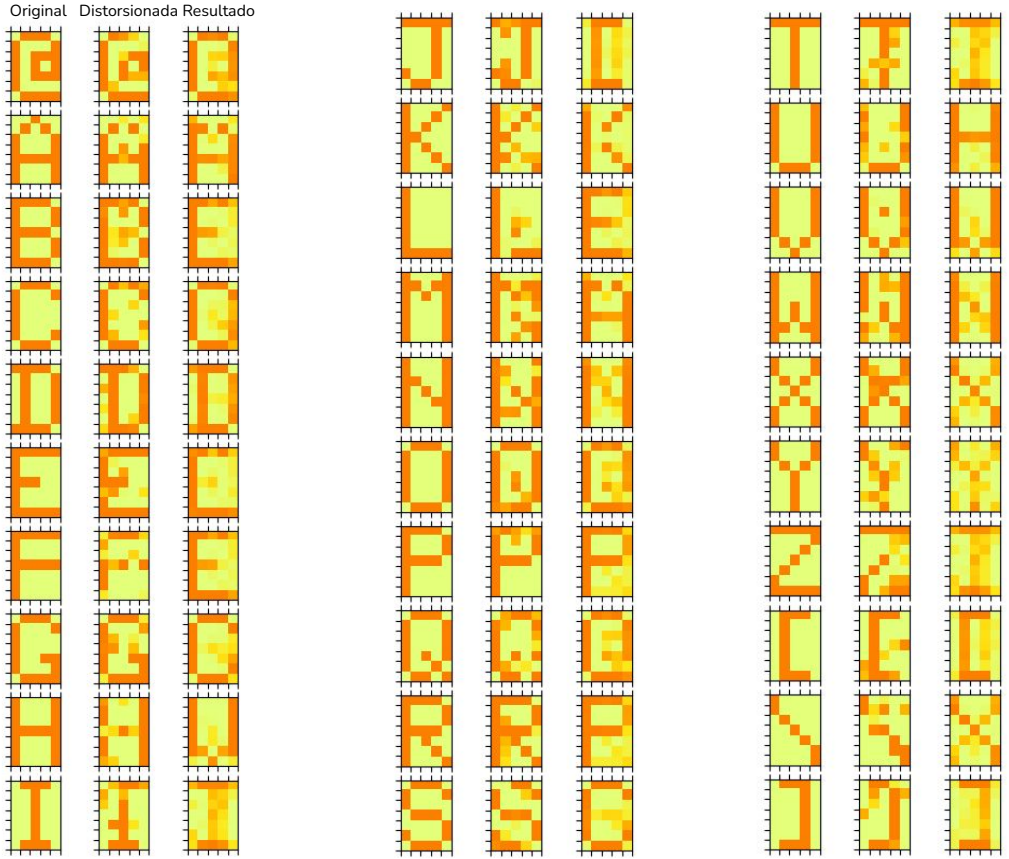
DAE - Capacidad de eliminar ruido

Entrenada solo con 5 letras



40% de probabilidad de afectar el pixel

Entrenada con las 32 letras

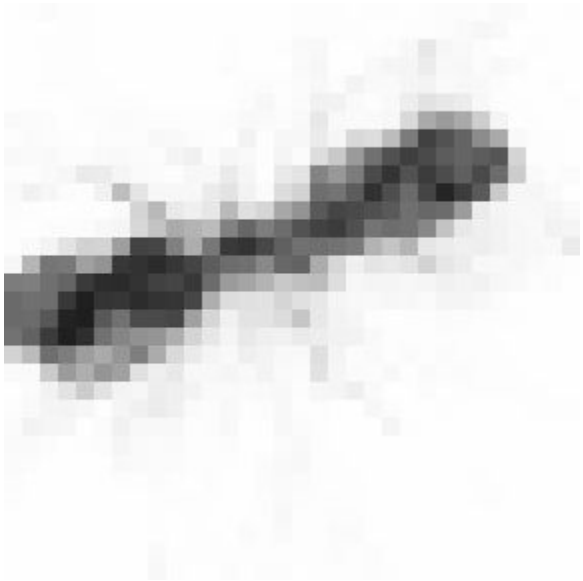


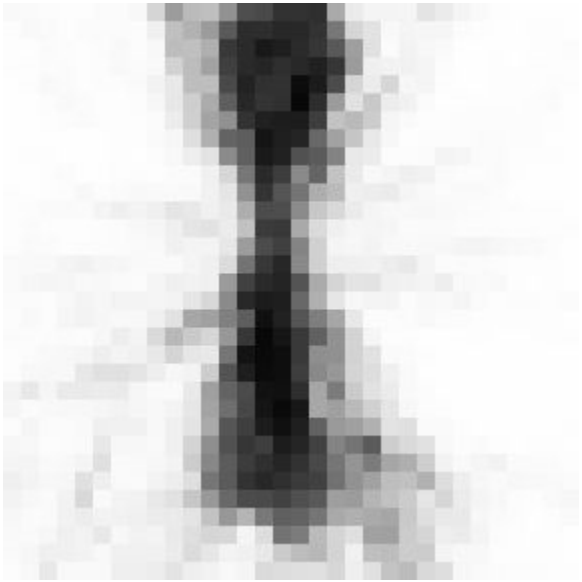
Ejercicio 2
Nuevo dataset

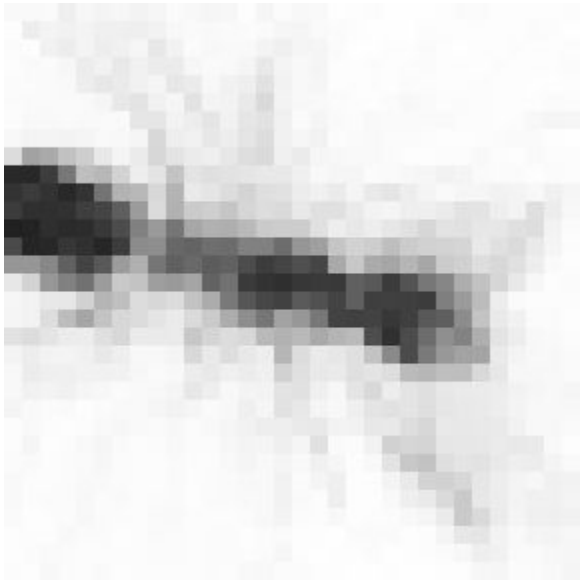
Conjunto de datos elegido

50 imágenes

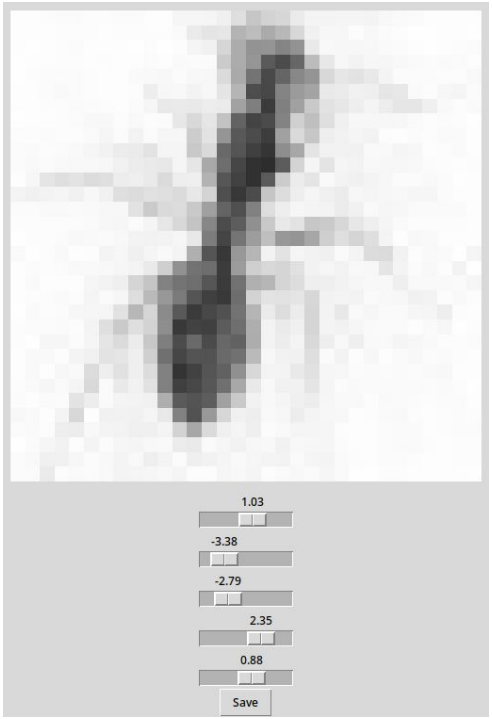
Nuevas muestras generadas

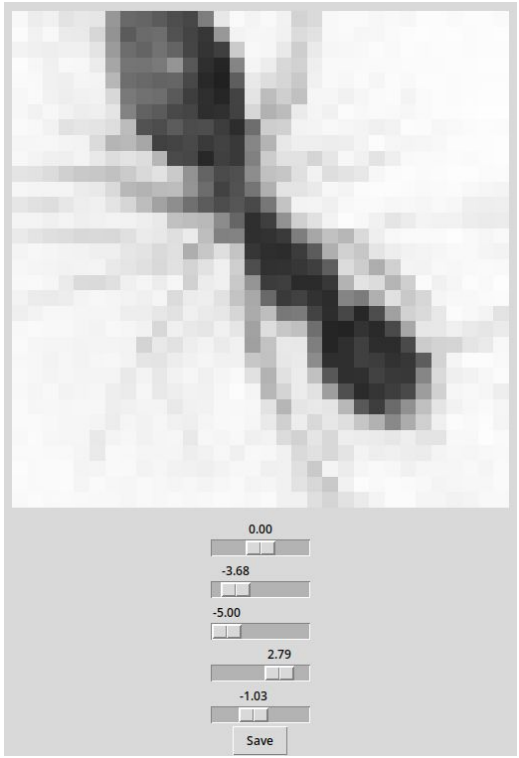






Nuevas muestras generadas





Conclusiones

Conclusiones

- El autoencoder se demoró en realizar el entrenamiento de las fuentes.
- Al agregar capas al autoencoder, se demoraba mucho más en minimizar el error.
- Al variar los valores del espacio latente, podemos generar nuevas salidas.
- La poca cantidad de imágenes del ejercicio 2 nos limitó a la capacidad de generalización de la red.

Muchas gracias