

# Playbook Assimilation: Unsupervised Learning of Receiver Routes

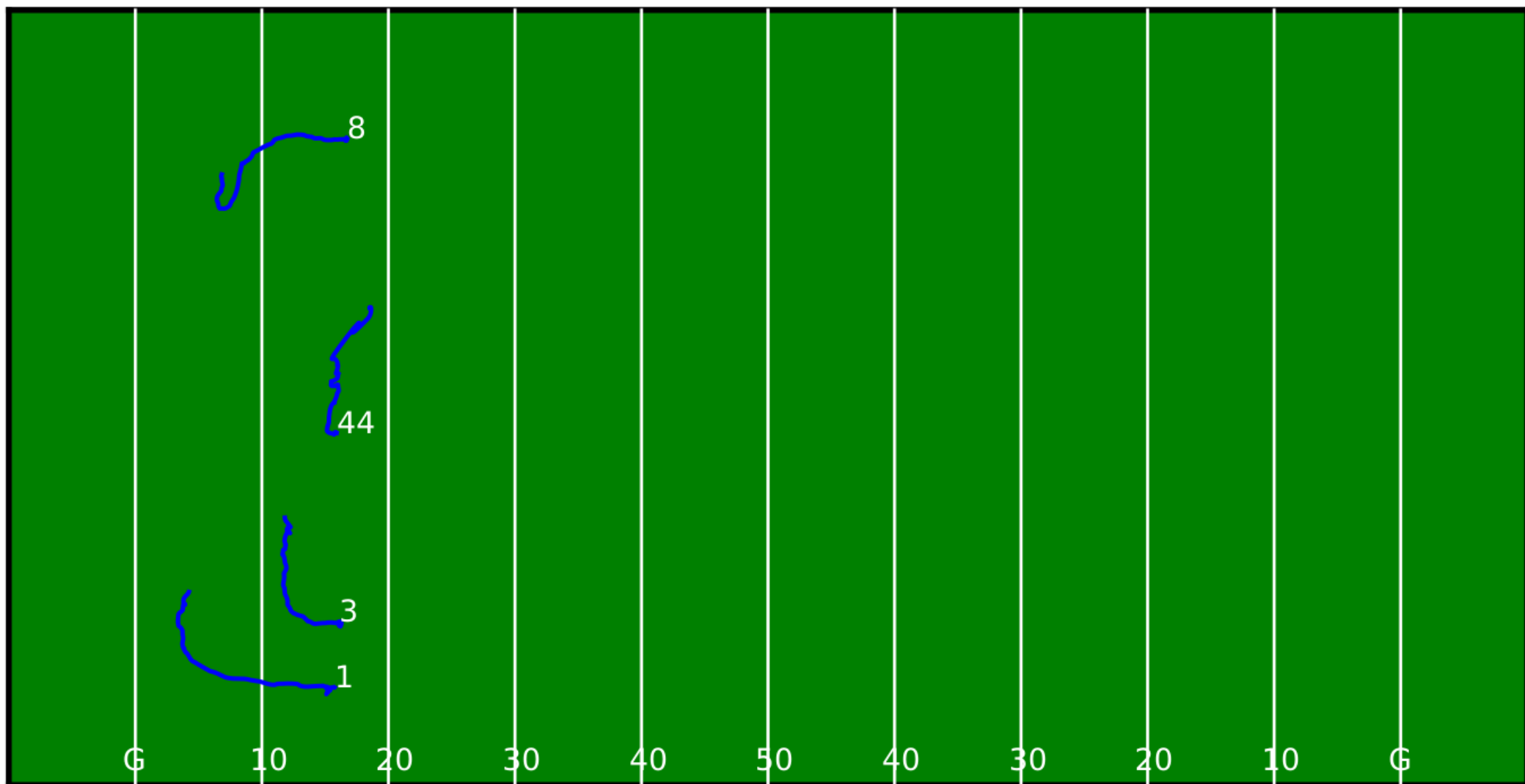
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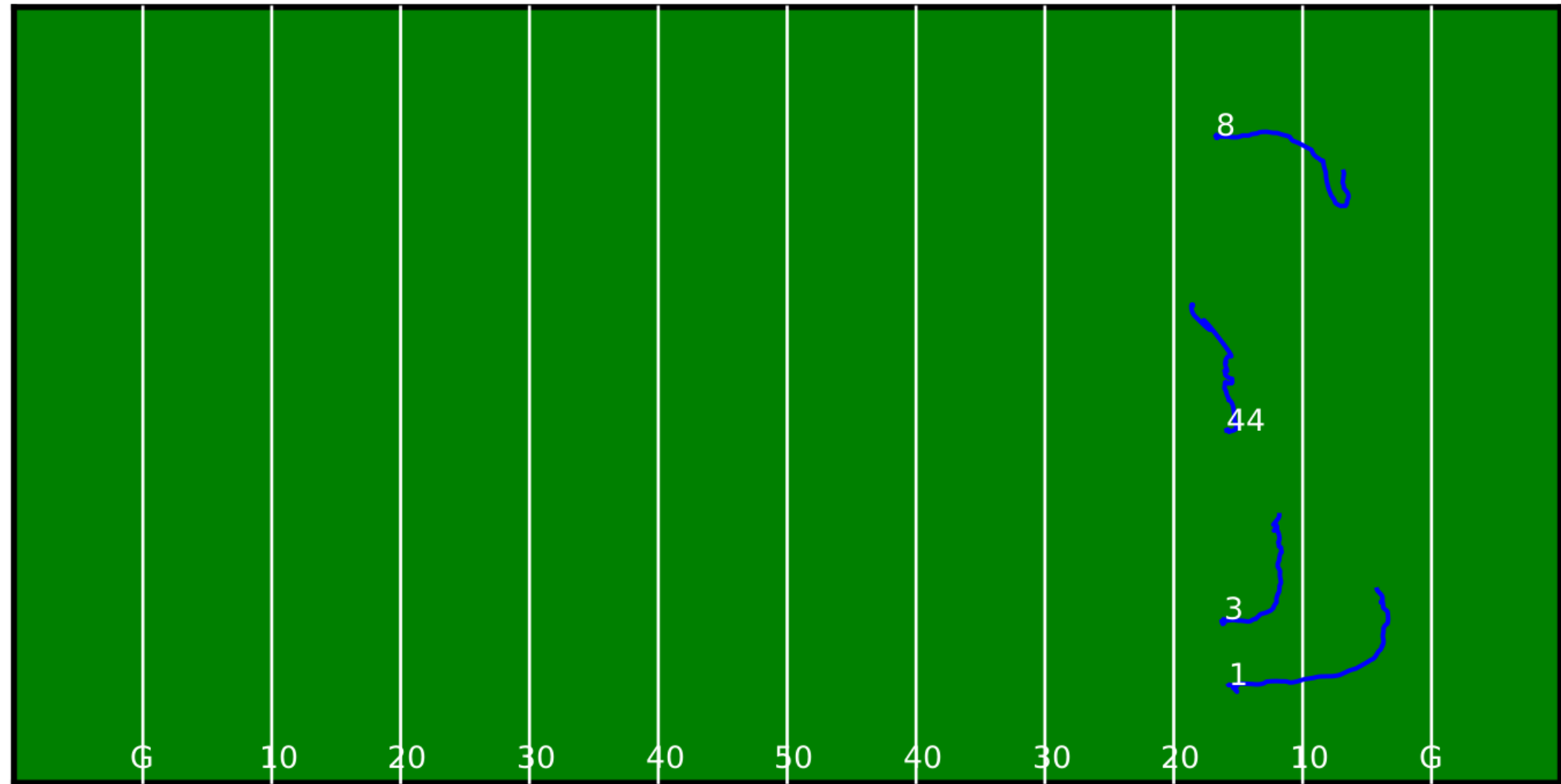
<http://neurocoding.info>

1. Represent routes in a low-dimensional space  
(Least squares polynomial)
2. Cluster  
(Gaussian Mixture Model)

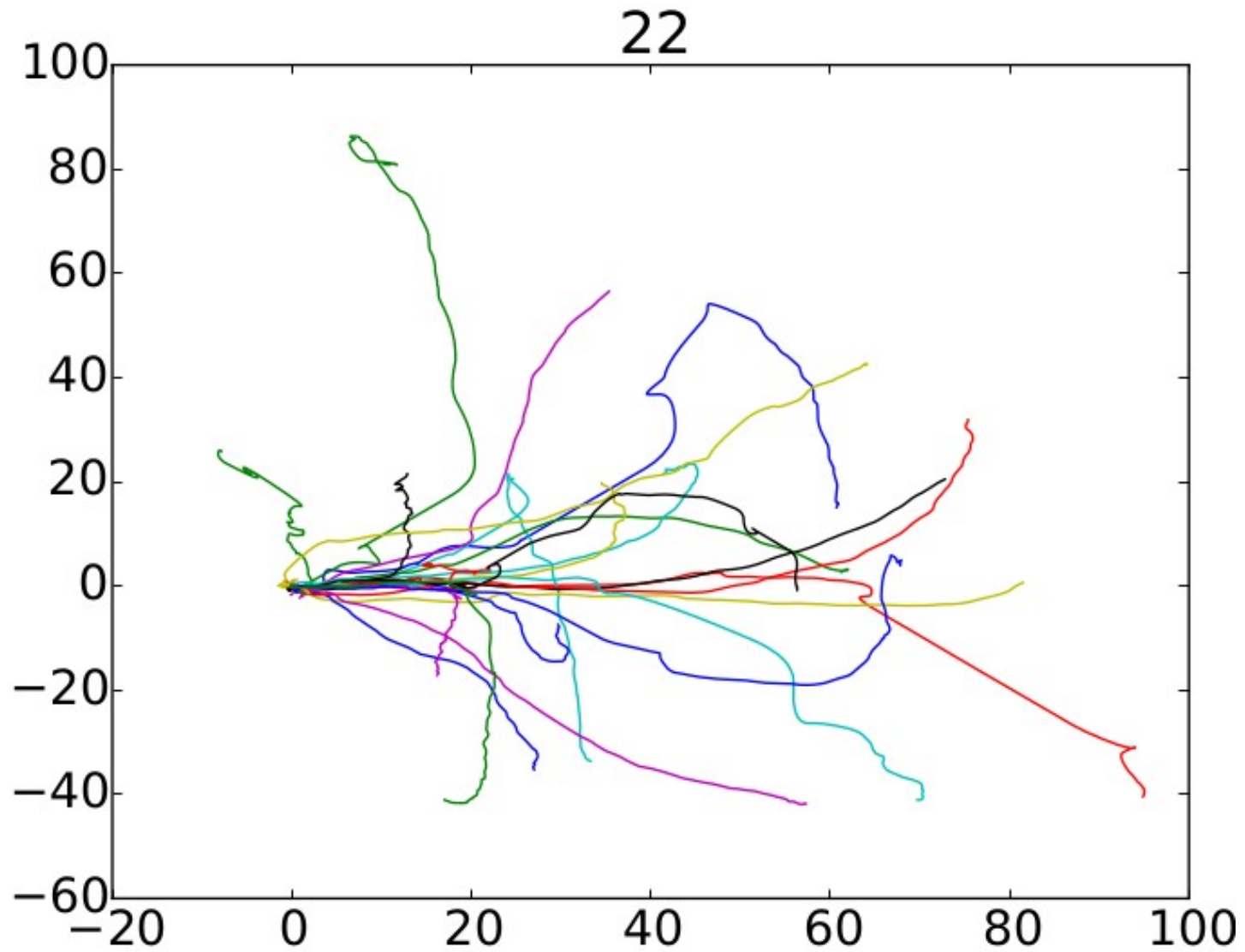
# Routes (Raw)



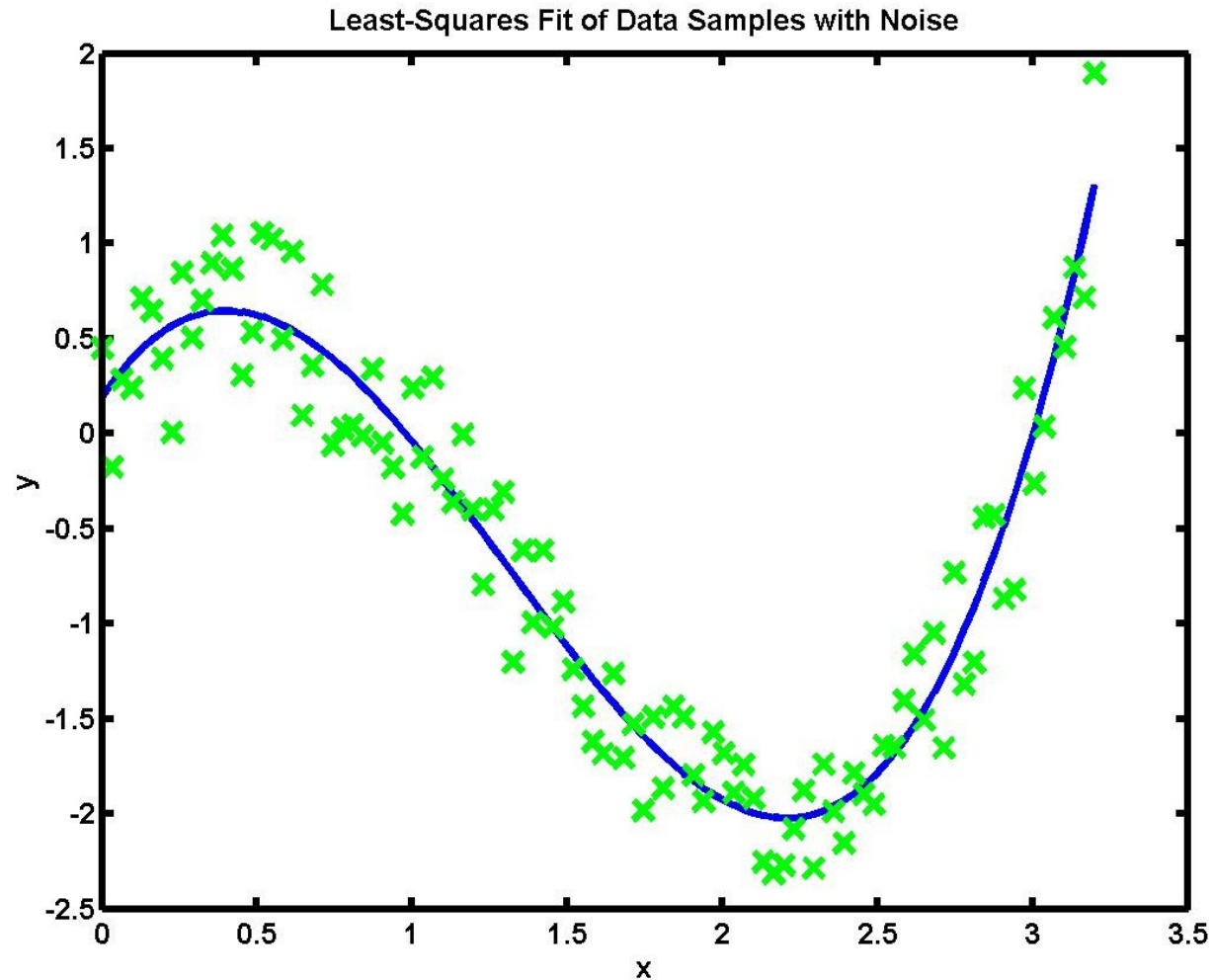
# Routes (Translated)



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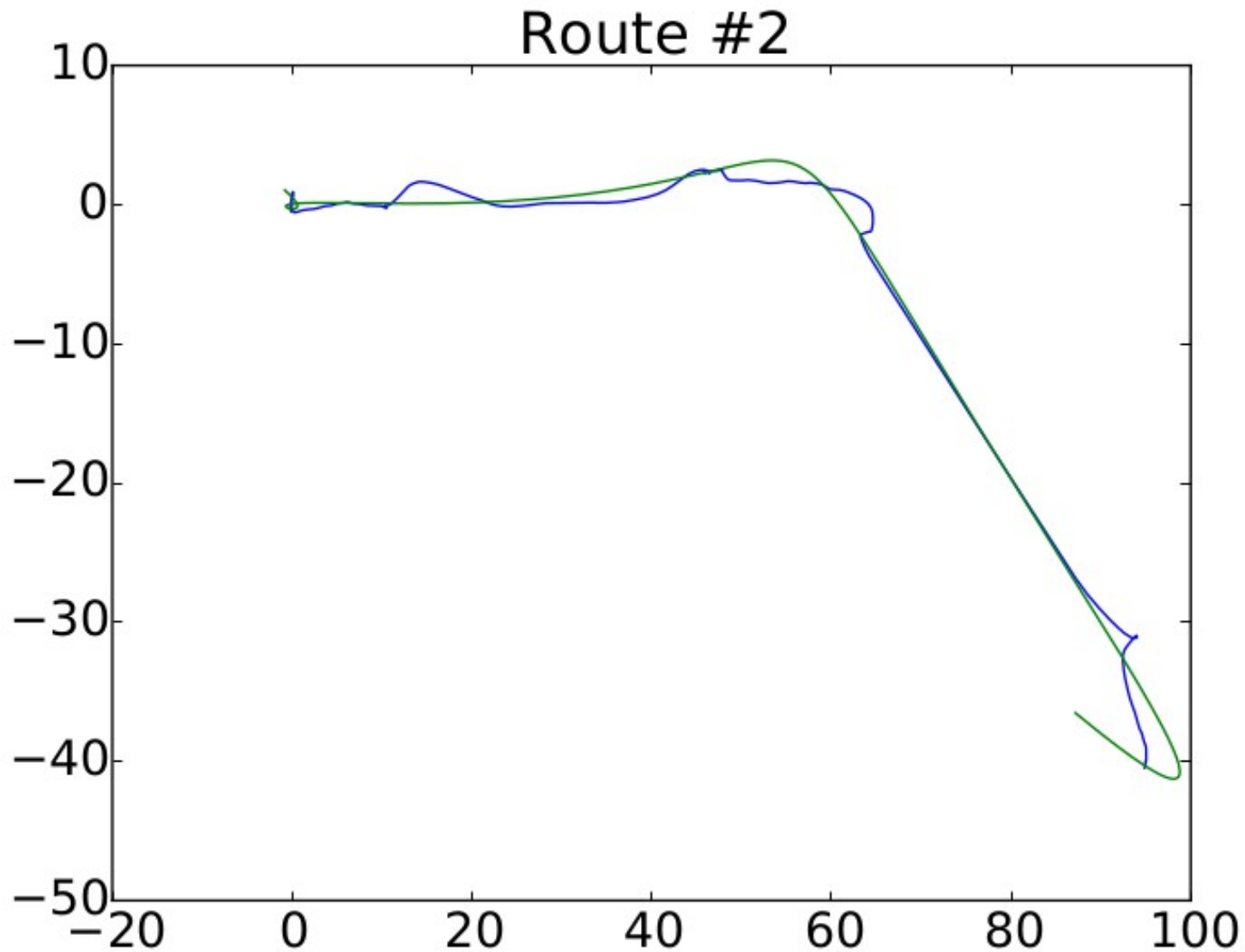


# Routes (Interpolated)

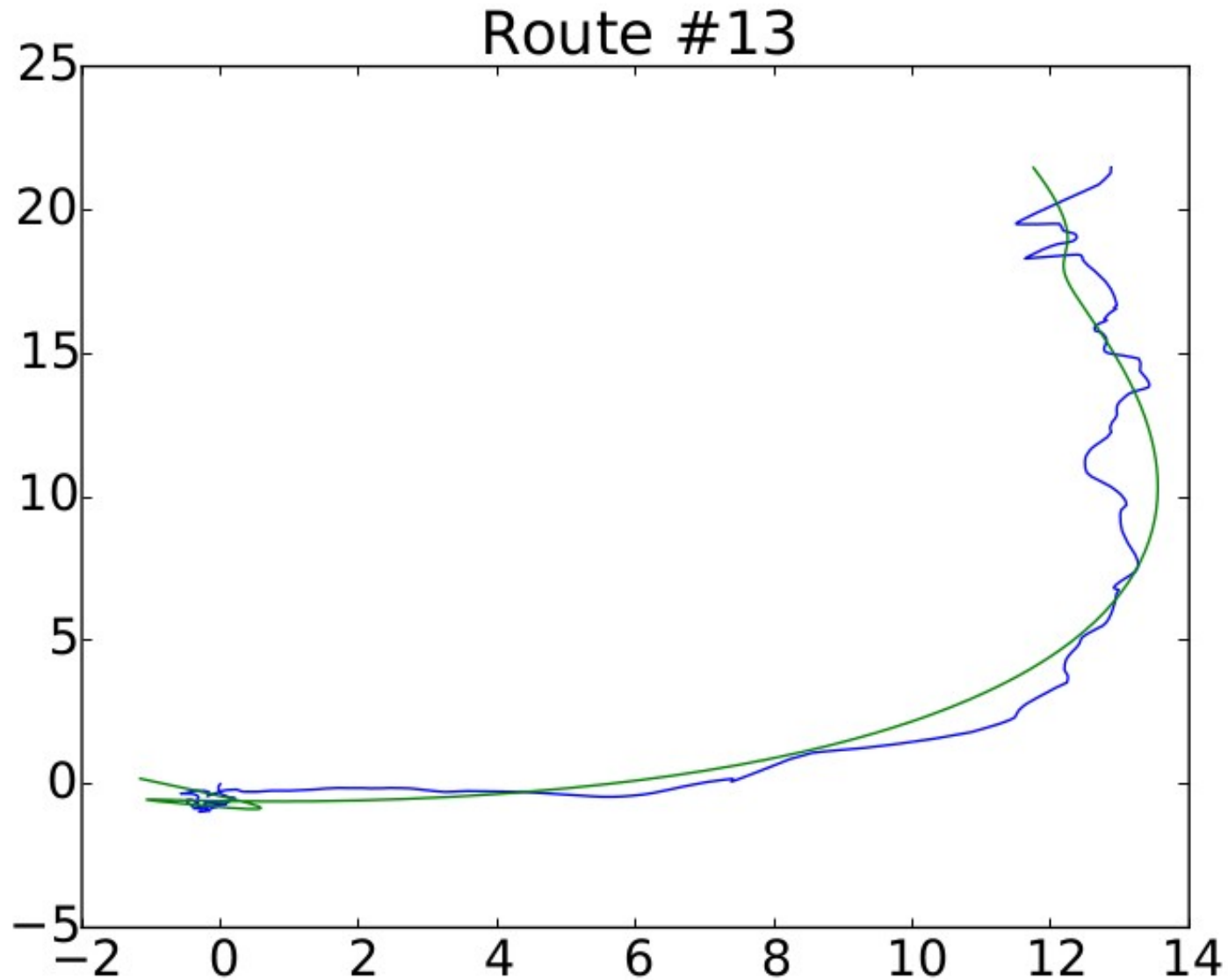


$$a_n x^n + a_{n-1} x^{n-1} + \dots + a_2 x^2 + a_1 x + a_0,$$

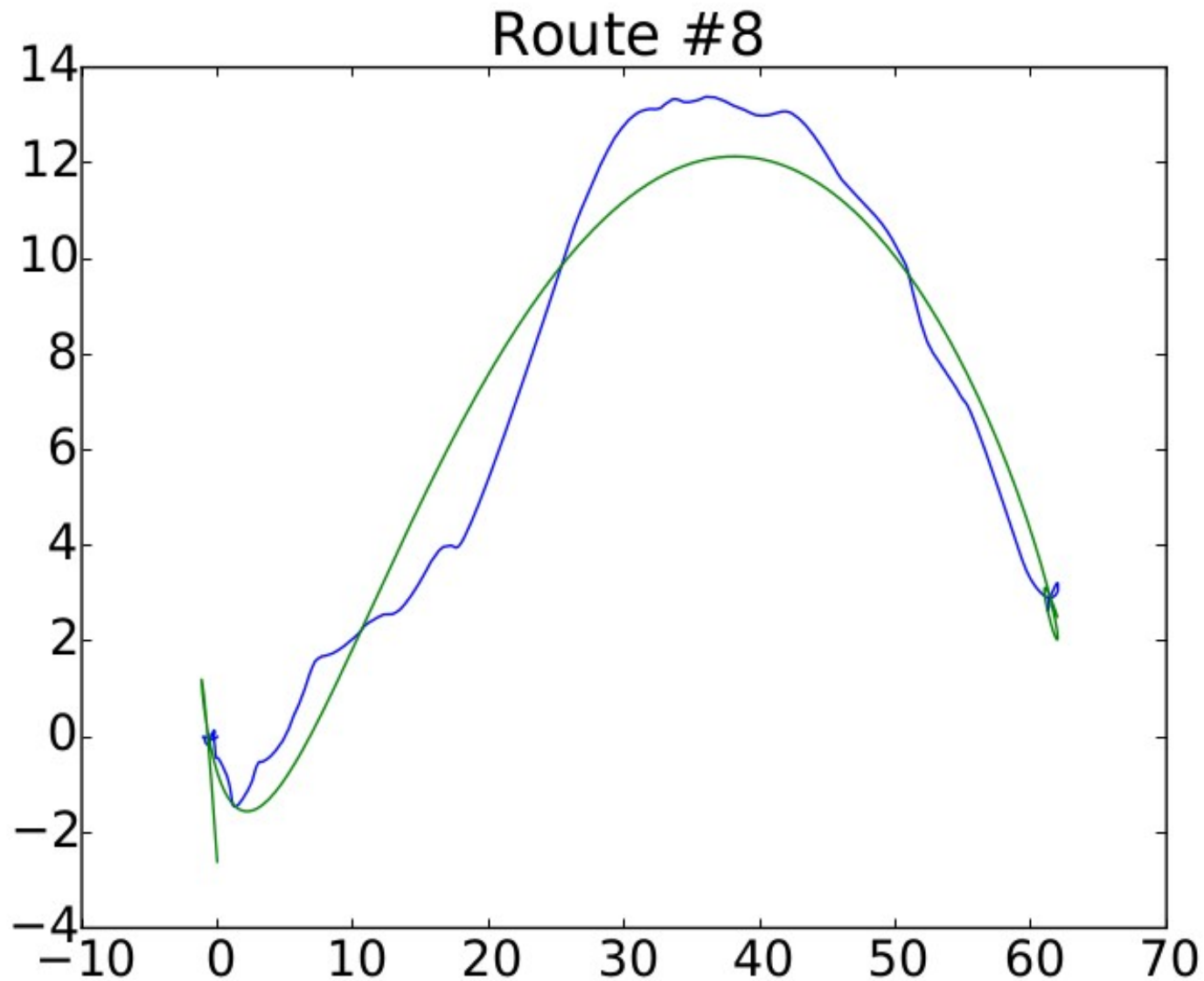
# Routes (Interpolated)



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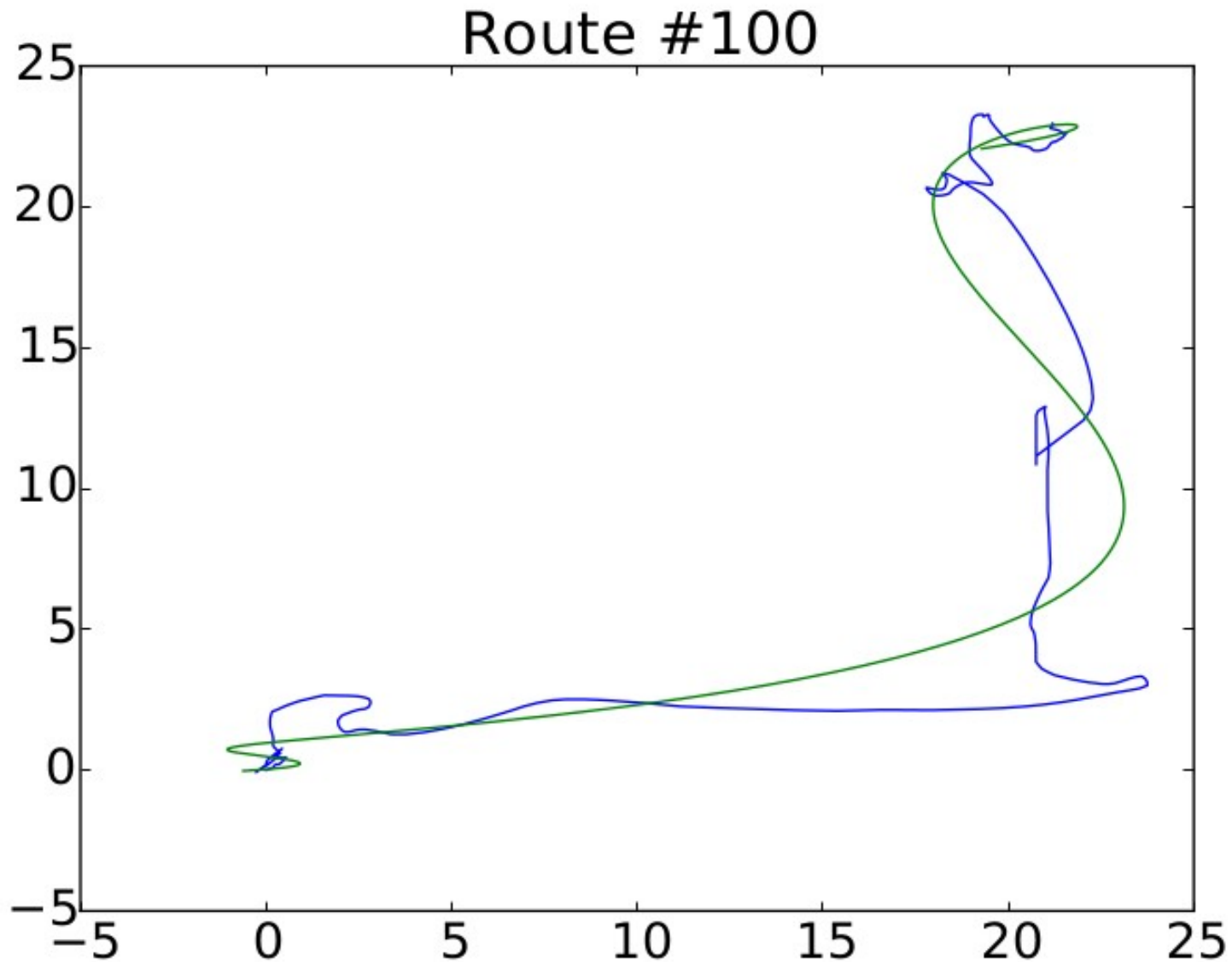


# Routes (Interpolated)

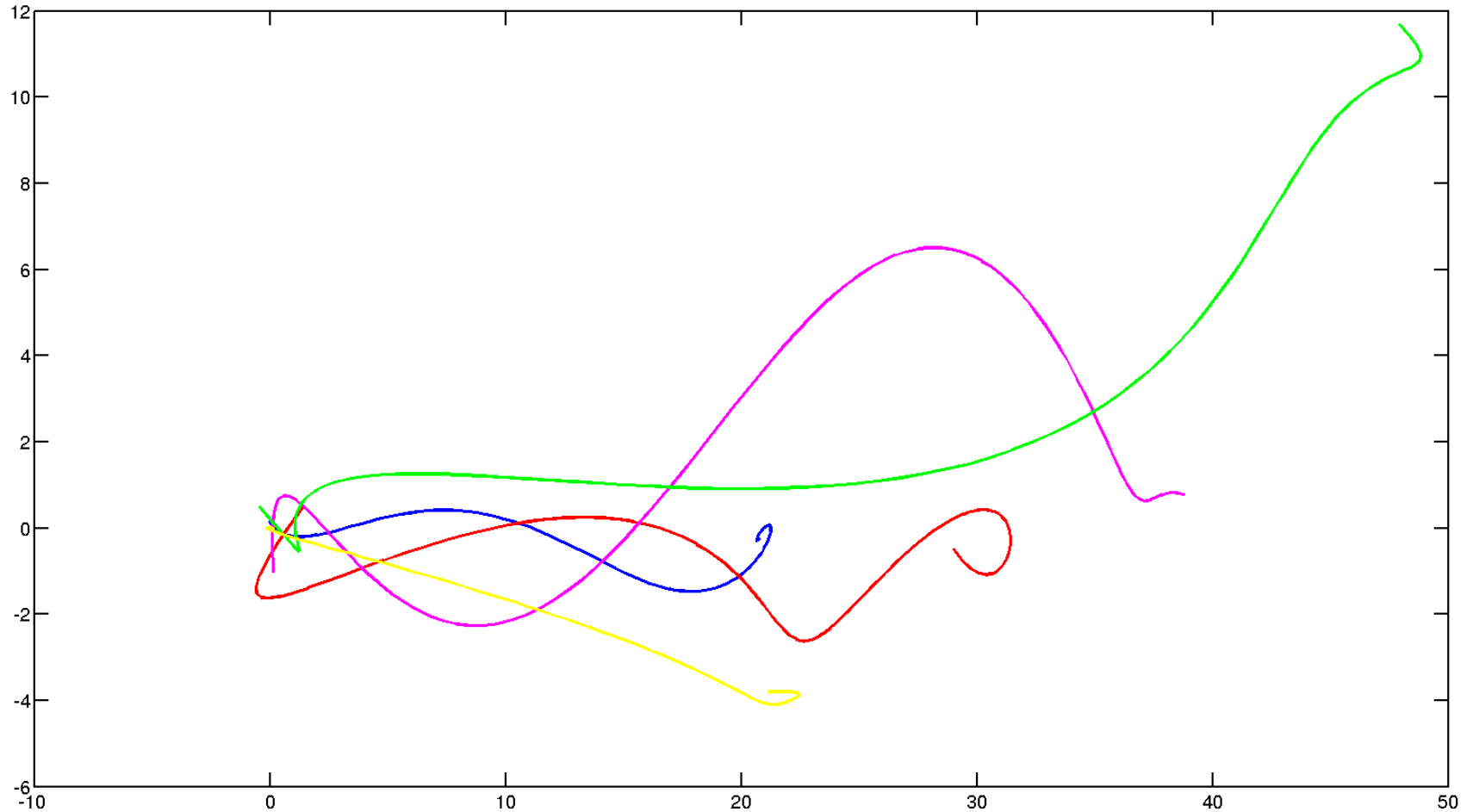




# Routes (Interpolated)



# Routes (Prototypes, $K=5$ )



# Future Directions

1. How to reduce noise? Regularization?
2. How many clusters are there?
3. Are certain clusters correlated with game outcomes, e.g. completion %?