

No Man's Sky Interactive Galactic Map

Boldly Go where *Almost* No One has Gone Before!

Derek Borders

Overview

The NMS Interactive Galactic Map is a small Plotly Dash visualization tool for exploring a dataset of fictional planets from the game No Man's Sky that were shared by the NMSCE player community on Reddit at r/NMSCoordinateExchange alongside a few of my personally explored planets.

The bulk of the project involved generating the NMSCE dataset of 2492 planets and creating a model to extract coordinates from the coded address embedded in screenshots from the game.

Methodology

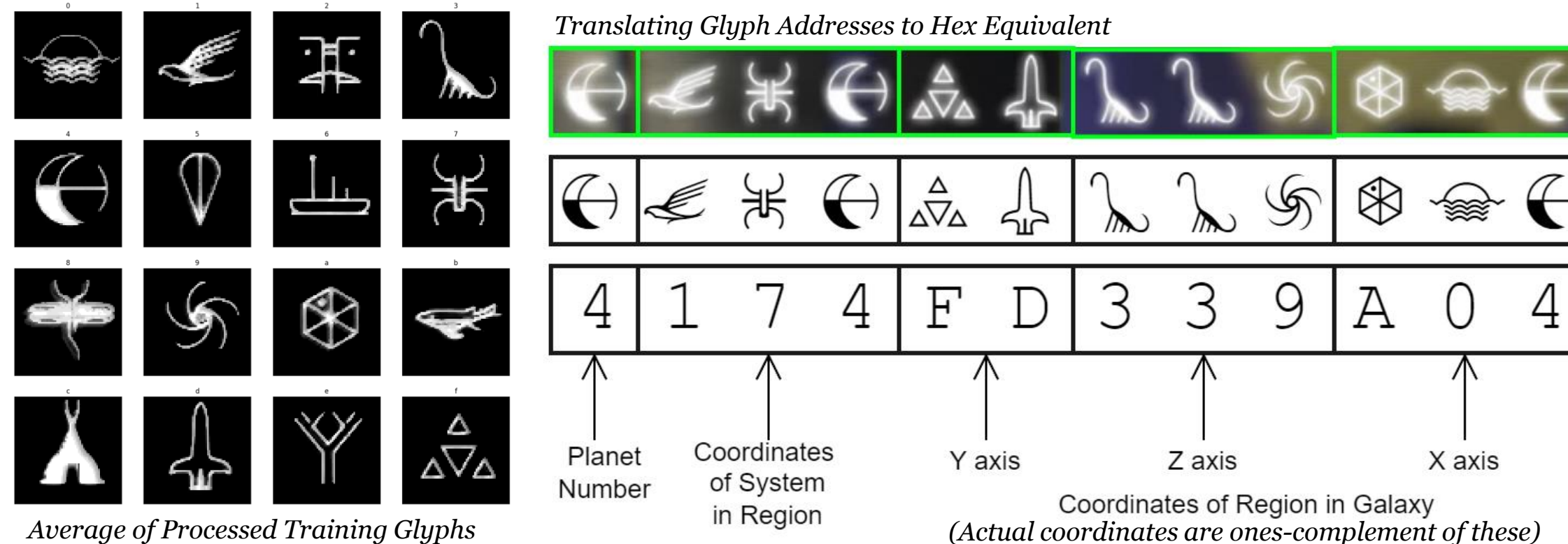
- Scrape Screenshots from Reddit
- Extract 12-glyph address portion of images.
- Split addresses into sequence of glyphs
- Manually sort ~1000 glyphs into training set
- Train a neural network to classify glyphs
- Classify thousands of additional glyphs
- Manually curate results, add to training data
- Extract 3d coordinates from target images:
 - Classify each glyph
 - Generate hex string for 5 sections
 - Convert to decimal value
 - Take ones-compliment
- Plot both sets in a 3d scatter plot
- Create interactive dashboard with additional exploratory data analysis plots

Results

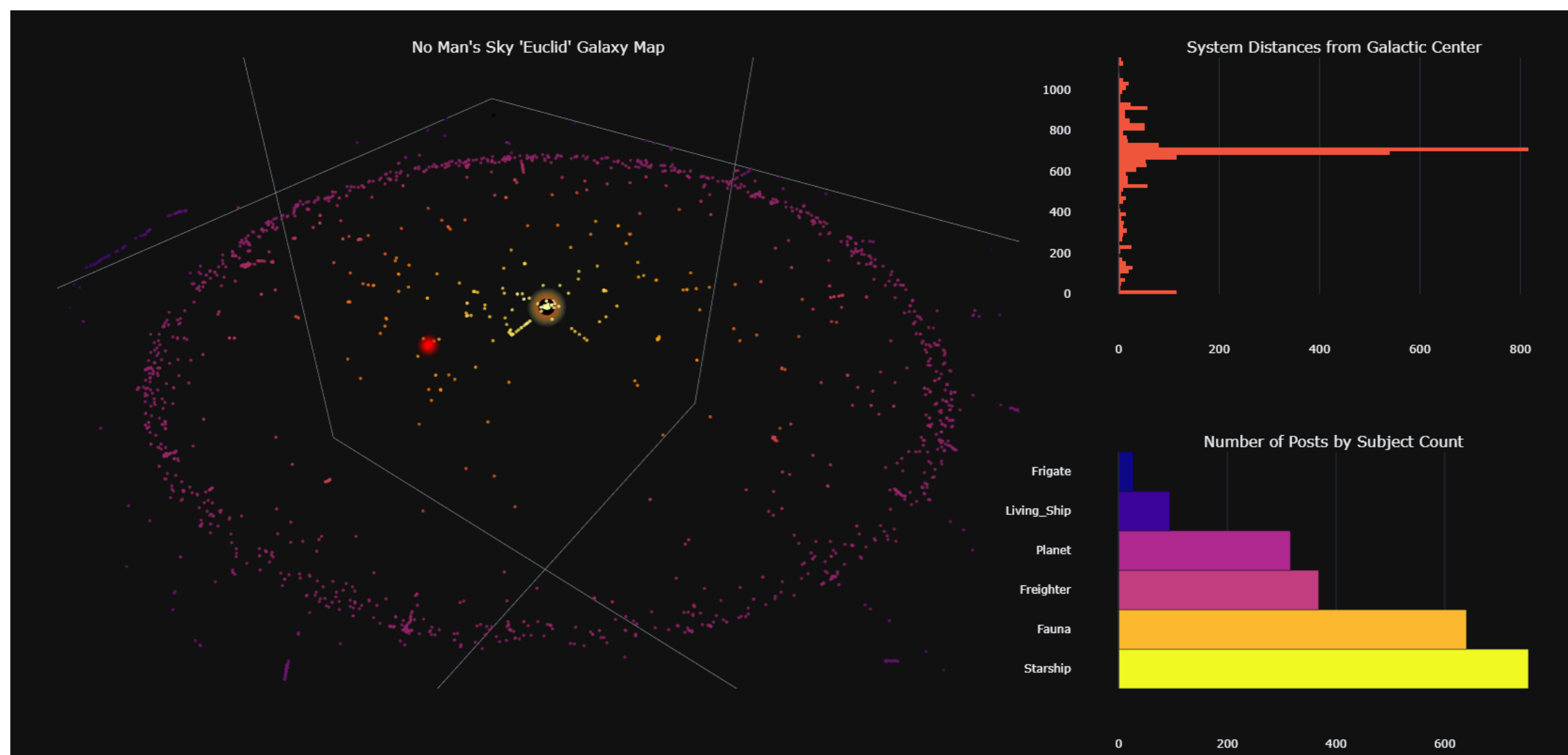
This interactive 3d galaxy map displays a small sample of 2492 systems known to the NMSCE community (colored by distance to center) alongside a handful of systems originally explored by me (red).



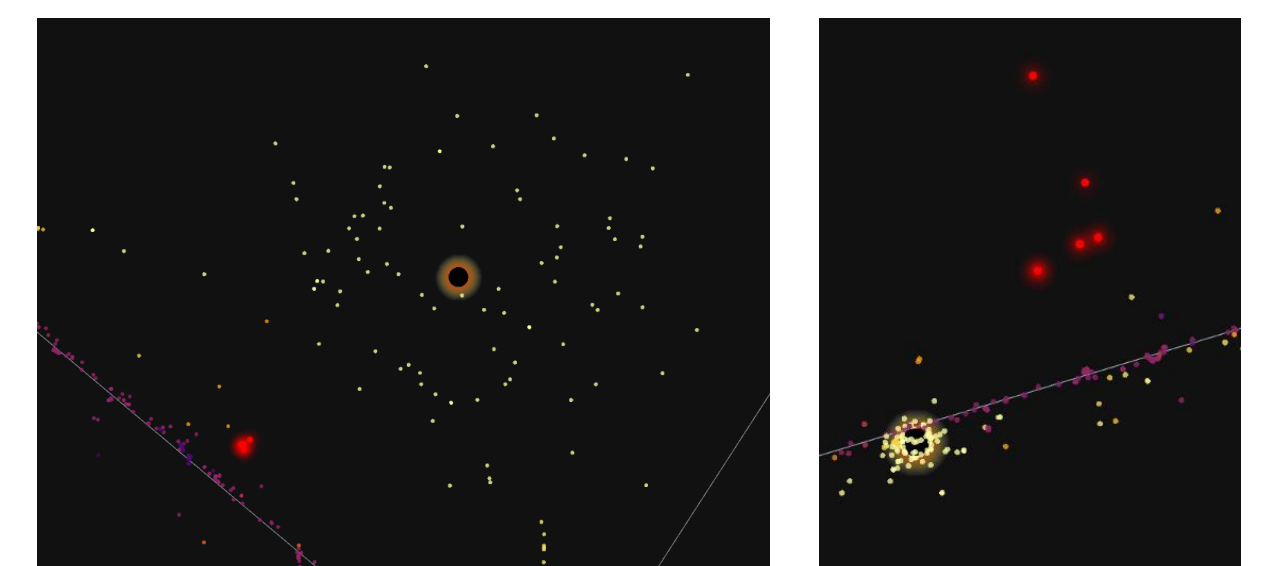
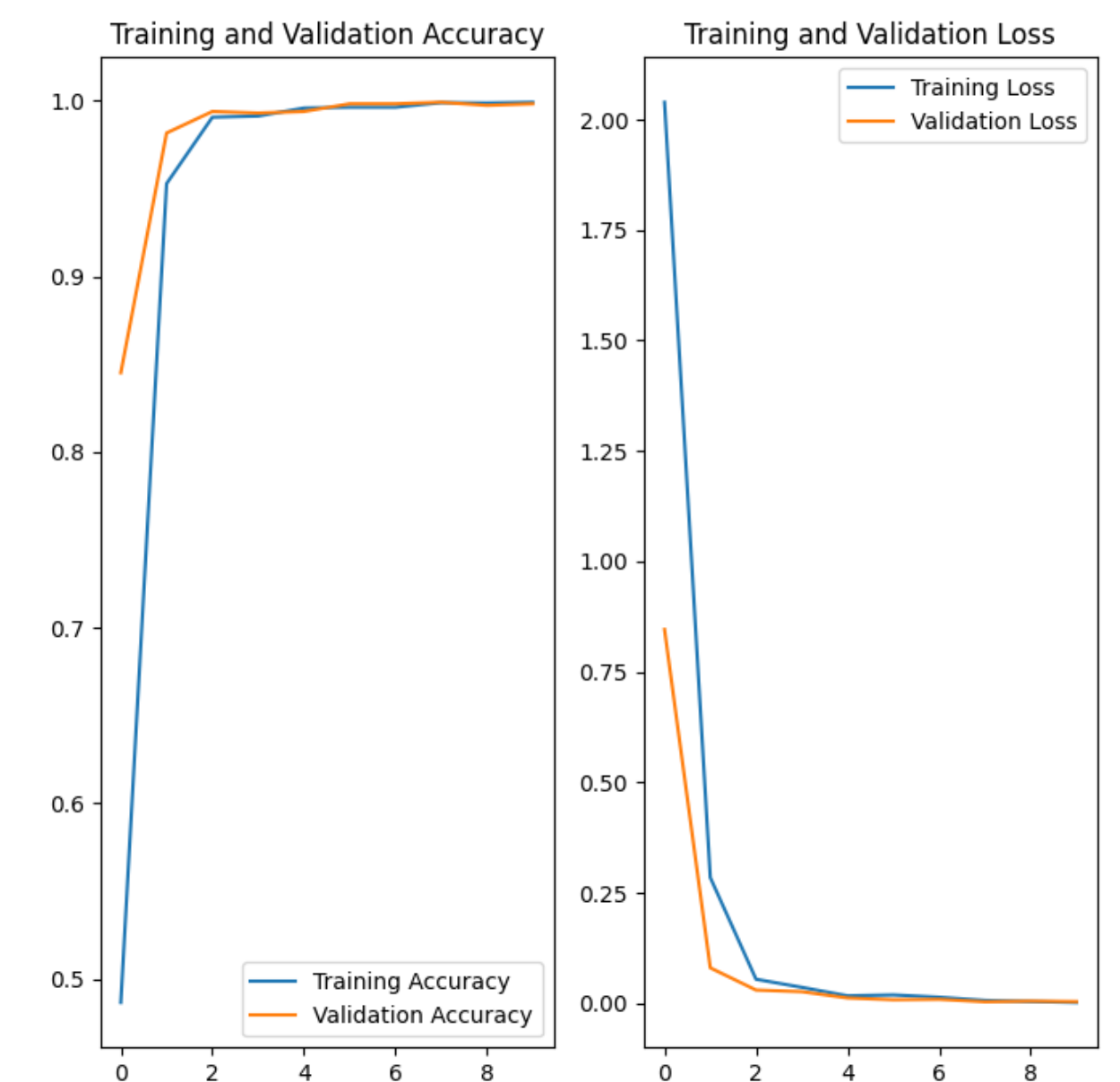
No Man's Sky Screenshots with Glyph Addresses Enlarged Above



Average of Processed Training Glyphs
5719 images of 17 classes, 0-F hex + non-glyph



Check out the interactive dashboard at derekborders.pythonanywhere.com



Galaxy Center

My Systems

	address	planet_index	sys_index	x	y	z	k_ly_from_center
0	10BD10102222	1	189	258	16	546	241
1	10BD10102222	1	189	258	16	546	241
2	10F810102222	1	248	258	16	546	241
3	614A10103222	6	330	259	16	546	241
4	614A10103222	6	330	259	16	546	241
5	614A10103222	6	330	259	16	546	241
6	100B0F101227	1	11	257	15	551	243
7	200B0F101227	2	11	257	15	551	243
8	200B0F101227	2	11	257	15	551	243
9	51770F101227	5	375	257	15	551	243
10	51770F101227	5	375	257	15	551	243
11	115012105229	1	336	261	18	553	244
12	10C11710522C	1	193	261	23	556	245
13	40C11710522C	4	193	261	23	556	245

My System Addresses, Coordinates & Distance to Center

California State University Chico

Computer Science & Data Science



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