

Data & Visualization Weekly Projects Report

2022__01__14

Active Projects

Active Development

- Kay He Exoplanets
 - Kay is also looking for assistance with extending the stellarscape project to material about exoplanets
 - I'm looking forward to helping with this as long as there is time
- Kay He B2 Lung
 - I have been given approval to start this project with Kay as long as I can balance my other duties as well
- Marcos Serafim Touch Designer visualization of audio file as video data bending
- CATalyst data studio vis wall playlist
- Thermal Imaging Project
 - have been running the detection script on the HPC overnight
 - also made changes to the log plotter so that it interactively draws points on a background image at the location that motion was detected in the time span that the user has selected with the cursor brush
- Vulkan on HPC
- Streaming Technology for HPC
- Data Visualization Roadshow With Jeff Oliver and Kiri Carini
 - will be meeting online for the beginning of the semester
 - have our first presentation in the art department earlier in the spring
- Independent Study Abby Collier
 - met with Abby and she agreed to help with other touch designer projects that are on my plate
 - she will also probably get connected with NYU and help with the turn up planning and visualization work
 - Met today and started working on new material surrounding generative visuals
- Stellarscape Astronomy Multimedia Dance Performance
 - In last couple weeks have been having lots of rehearsals
 - Show is officially postponed but will be having a private premier and the next day will be filming the footage for the SXSW trip
- Virtual Nature
 - Spent most of the last couple weeks working on learnign to write Unreal Engine graphics programming code
 - This will be most important for leveraging HPC for visualizations when the time comes
 - Visual Studio is causing me a lot of grief and just found out that the hard drive that I was using for moving between different computers is probably broken

Consultations

- Martha Bhattacharya Cytoscape installation
 - I worked with Martha to create a singularity container that had this program installed for using on the HPC
 - I showed her how to get started with the interactive desktops and how to launch the program from within the container
 - Unfortunately the program isn't configured to natively take advantage of multiple cpu cores so it doesn't scale many of it's operations up to the resources available on the HPC
- Visit remote visualization support
 - had a meeting with Martin Liza about this but couldn't get it working with version 3.2.1 and his mac laptop
 - need to experiment with this on my own
- Laura Miller Math
 - Met with Laura to see if she could help me test the Visit program setup for the HPC
 - We ran into some issues with version 3.1.1 and she is going to track down some better data for our benchmarking

Upcoming

- TURN UP Festival Performance NYU/UA collab
- Volumetric Capture processing on HPC
- Has Faculty Collaborations With Holodeck
- Ray Tracing On The Hpc
- Observablehq Portfolio Of Data Visualization
- Jason Hortin Holographic Dance Graduate Project

Completed For Fiscal Year

Recently Completed

- Sarah Stueve d3 brushing

Workshops/Trainings

- Mt. Lemmon In Your Pocket-Creating A Virtual Reality Tour
 - https://rtdatavis.github.io/#GIS_week2020
- Presentation For Civil Engineering Department
 - <https://docs.google.com/presentation/d/15Z9zcxU4vIIgFPnKEcaGv9GH7JtjNdx4Xpnjec0EzEc/edit>
- Resbaz Organizer And Workshop Provider
 - https://hackmd.io/-XS5Mqh8TA2EHjTHCQ_4tw
- Tech Core Level Up Presentation Monday, Sept 28 2020
 - <https://rtdatavis.github.io/#techcoresept28>
- Tech Core Level Up Presentation Tuesday, Mar 17 2020
 - <https://rtdatavis.github.io/#techcoremar20>

- Womens Hackathon: Visualization On The Web Workshop
 - <https://womenshackathon.arizona.edu/>
 - <https://www.youtube.com/channel/UCe1YiJ53o3qcayVs4cipeXA/videos>
 - <https://www.youtube.com/watch?v=VLwPOtqW8oM>

Completed Projects/Collaborations

- IEEE Satellite Vis Conference Planning
 - <https://www.appsheets.com/start/7e25f1d2-e9a4-4eec-a31a-5edd275f3059>
- Collaboration With Techcore'S Summer Internship
 - https://hackmd.io/xi_m4Kj6QDenBR3ZAFN3iw?edit
 - 'Project folder on gdrive': <https://drive.google.com/drive/folders/13v9QfUFVjQD-x7dh8chQZFvAxmy5zmx6?usp=sharing>
 - 'videos': <https://drive.google.com/drive/folders/18tT28oLiXFH1wH8NGUwSU1K0URyzJq9o?usp=sharing>
 - 'Pecha Kucha style presentation': <https://docs.google.com/presentation/d/1n6ggKJ-oG7fqHfVsLMnuYkAVh095B1RA7EcNx1RQ12M/edit?usp=sharing>
 - 'presentation video': <https://www.youtube.com/watch?v=EiQ9S5lNbA8>
- Radiology 1St Year Resident Carl Sabotke
- 3D & Vr Retrofit Azlive
 - <https://rtdatavis.github.io/#retrofitAZLIVE>
- Bio5 Virtual Reality Tour
 - <https://rtdatavis.github.io/#bio5-vr-tour>
- Covid Retail Mitigation Web Scraping
 - <https://rtdatavis.github.io/#retailscraping>
- Force Directed Biochem Networks
 - <https://rtdatavis.github.io/#biochem-networks>
- Migrant Forensic Empathy Project: A Digital Borderlands Grant Initiative
 - <https://mfemigrantdeathmap.baylyd.repl.co/>
 - https://devinbayly.github.io/digital_borderlands_conversion/src/mesh_test.html
 - https://devinbayly.github.io/digital_borderlands_conversion/src/index.html
 - https://hackmd.io/Qo_HmwmwSTG-QPYVTJl0Lg?view
 - <https://osf.io/v9swc>
- Neuro Choropleth
 - <https://rtdatavis.github.io/#neuro-choro>
- Oyster Vibrio Literature Review
 - TBA
- Spring Break Covid Photo Maps
 - <https://rtdatavis.github.io/#spring-break-covid>
- ENVs Term paper Consultation on Cu+ exposure and environment resilience

Completed Consultations

- Sarah Stueve d3 brushing
- Volumetric Capture presentation emergency request CDH

- Shane Thomas using python pandas
- Kirsten Ball ENVIS
- Discussion about Social Network Analysis Visualizations
 - NA
- Advice For Thesis Defense Visualizations, Sabrina Nardin
 - NA
- Bryan Carter Photogrammetry
 - <https://sketchfab.com/3d-models/churche-maze-photogrammetry-d0767af08a5d498fb960efe3ac83385f>
 - https://drive.google.com/file/d/11E5_912vW6kuPBxcujGKs-UQD9S3jA-H/view?usp=sharing
- Annalysa Lovos Publication Figure Rescaling
- Lilliana Salas GIS GIDP
- Arminda Estrada, ECE

Infrastructure Developed

- Remote Visualization Infrastructure Development spring 2021
- Autamus Web Interface
 - https://rtdatavis.github.io/#autamus_interface
- Virtualgl For Nvidia Accelerated Remote Hpc Visualizations
 - <https://rtdatavis.github.io/#virtualgl>
- Xpra And Singularity For Comprehensive Graphical Application Support On Hpc
 - <https://rtdatavis.github.io/#xprasingularity>

Protocols and Analysis Developed