

Data & Visualization Weekly Projects Report

2021_10_08

Active Projects

Active Development

- CATalyst data studio vis wall playlist
 - Setup meeting with Jen for next week
 - Goal of short project is to create a web page that will be screen saver for the big vis wall at CATalyst
 - Have process that iterates over videos and live demos of visualizations and creative code works
 - Make it something others can add to over time
 - Should be a great way to be in the driver's seat for what material gets viewed by people visiting the space
 - This will make it easy to have a showcase option for RT's work
- Thermal Imaging Project
 - Had first meeting with Brad Ross and Ed Wellman
 - Received their project directory to explore and several documents detailing the previous steps of the project
 - Sounds like they want someone to explore a few different types of motion detection algorithms by January so they can put that information into next milestone document
 - If possible would like to make the workflow run on the HPC so that they can process videos in bulk
 - Set monday as date to meet and go over material with Ed
- IEEE Satellite Vis Conference Planning
 - Created self updating google form for the Birds of a Feather submission
 - Organized connection for producing the Satellite conference promotional video
 - Attended meeting with videographer and Josh
 - Started thinking about what live streams to watch during the satellite event
 - Reached out to folks who might be interested in showing their services at the Showcase Lunch on Tuesday
- Vulkan on HPC
 - In the process of creating a program that will read from hdf5 files and transparently draw points to image texture using GPU to be saved out as individual frames of Astronomy Simulation videos
- Streaming Technology for HPC
- Data Visualization Roadshow With Jeff Oliver and Kiri Carini
 - Met and revised presentation with Jeff Oliver and Kiri
 - Worked on tool for Kirsten Ball as individual consultation
- Independent Study Abby Collier
 - Met with Abby and talked about Github actions for automated cloud

- operations
 - Switched to working on stream disruption effects
 - Discussed a little bit of the Kalman filter bayesian questions that I have
- Stellerscape Astronomy Multimedia Dance Performance
 - Had Tech Test meeting last wee
 - Switched from developing on the iMac Pro to the performance computer that Kay has
 - Many effects were broken by the switch, so spent most of the week working on what the fixes for these were
 - Read quite a bit of the Kalman filter jupyter notebook “book” by rlabbe, very helpful <https://github.com/rlabbe/Kalman-and-Bayesian-Filters-in-Python>
 - Going to ask Ryan in TESS if he can install Touch designer on the vis PC connected to the big display wall
- Virtual Nature
 - Will be testing Omniverse with the work machine this week to see if it’s a viable way to allow the DCC Omani to work with unreal from her laptop
- Radiology 1St Year Resident Carl Sabotke

Consultations

Upcoming

- Has Faculty Collaborations With Holodeck
- Observablehq Portfolio Of Data Visualization
- Ray Tracing On The Hpc

Completed For Fiscal Year

Recently Completed

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

- 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=](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>’}
- 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>

Completed Consultations

- 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

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