**Local Employment Dynamics**

Computer scientist and advanced visualization researchers at Carnegie Mellon University utilize LEHD data to explore techniques and methods for handling big data. They face challenges in which massive datasets must remain highly interactive so that human cognition can process the information being presented.

The emergence of highly dimensional datasets, such as found in LEHD data, requires new ways for humans to navigate and comprehend. This data is large, complex, and has high spatial and temporal resolution which allows opportunities for real and meaningful discoveries

The Explorable Visual Analytics platform (EVA), an ongoing research project, is developing ways for visual exploration of large and complex datasets by providing navigation mechanisms for the large, high-dimension data - which makes the LEHD Origin-Destination Employment Statistics (LODES) dataset a prime candidate. This dataset is being used by a wide span of scientists and analysts from economists to urban researchers. As such, it can be used with a rich set of contextual knowledge from various fields and for doing meaningful knowledge discoveries.
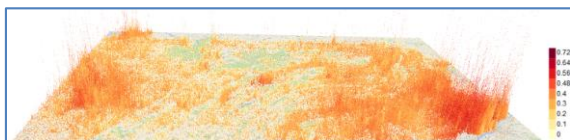
The subset of LODES data used has around 2.8M data entries and 44 dimensions. Going through the data using the EVA allows for better understanding and comprehension of a massive dataset - allowing discoveries to be made as interaction occurs.

LEHD data provides researchers the ability to test and apply new techniques to comprehensible, current, and real-world applicable data in a controlled environment. Experiments like those at Carnegie Mellon University have the capacity to provide breakthroughs to education and industry all around the world.

Using LEHD data, the EVA team was able to learn the importance of:
- High Resolution Data: Knowledge discovery is highly dependent on the amount of details a user can see.
- Explorability: Seeing the data from multiple perspectives increases the chance of recognizing unexpected patterns. This can be beneficial in the formation of new hypotheses and possible new discoveries.

EVA Application	**http://eva.cmucreatelab.org/**
LEHD Source Data	**http://lehd.ces.census.gov/data/#lodes**

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