Data Visualization Final Project

Factors Impacting Long-Term Outcomes in Higher Education

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May 10, 2019



SCHOOL OF INFORMATICS AND COMPUTING

INDIANA UNIVERSITY Department of Information and Library Science Bloomington

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Overview

- · Data Source and Previous Research
- Choosing a Visualization
- · Cleaning the data
- Results
- · Areas for Further Research



DATA SOURCE AND PREVIOUS RESEARCH



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What Data Are We Using?





Data Structure

- · Student Sample
- · Conferred Degree Data
- Location Data
- Academic Program Data



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Indiana Commission for Higher Education – Completion Dashboard

Completion at the same campus and degree level





Indiana Commission for Higher Education – Completion Dashboard

Completion at the same campus and degree level

		Within 4 Years	Within 6 Years	Within 8 Years
Four-Year Non-Main Campus	IUPUI	24.4%	55.6%	62.9%
	IU Kokomo	18.5%	41.4%	48.0%
	IU East	17.9%	36.6%	42.7%
	IPFW	16.6%	40.5%	48.4%
	Purdue Northwest (Hammond)	15.6%	48.0%	56.2%
	IU Northwest	15.0%	34.0%	42.5%
	IU Southeast	14.1%	41.2%	47.9%
	Purdue Northwest (Westville)	11.9%	37.5%	43.9%
	IU South Bend	10.2%	34.7%	43.0%
	Total	17.5%	44.5%	52.0%

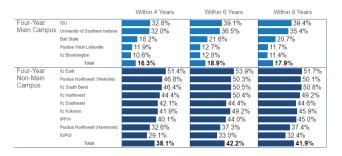


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Indiana Commission for Higher Education – Completion Dashboard

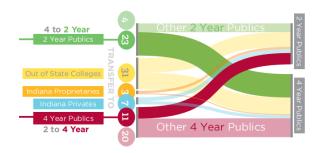
Dropped out / no degree



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COLLEGE TRANSFER & STUDENT SUCCESS

High level look at transfer students



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CHOOSING A VISUALIZATION



What are we trying to show in the data?

- Flow of students from one group to another
- · Trends over time
- · Insight about a particular cohort



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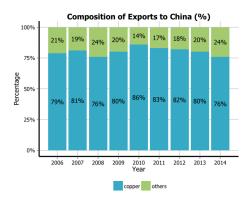
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Waterfall Chart?



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Stacked Bar Chart?

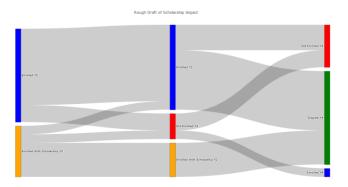


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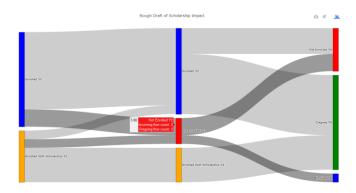
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Sankey Diagram?



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Sankey Diagram?





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CLEANING THE DATA



Fitting the Data to the Visualization

· Majority of time spent cleaning the data



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Fitting the Data to the Visualization

- · Majority of time spent cleaning the data
- Working with Plotly module Sankey charts

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Fitting the Data to the Visualization

- · Majority of time spent cleaning the data
- Working with Plotly module Sankey charts
- · Validating and iterating on the results



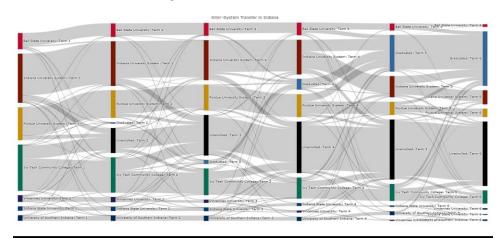
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RESULTS



Inter-System Transfer in Indiana

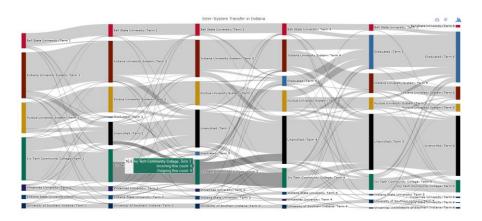




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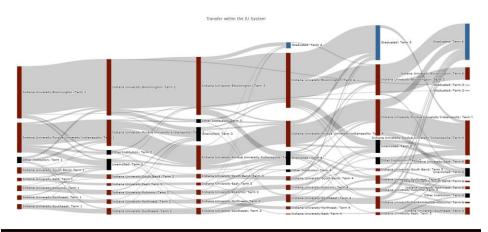
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Inter-System Transfer in Indiana





Transfer within the IU System

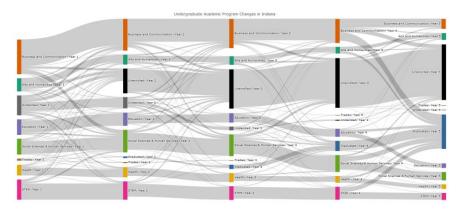




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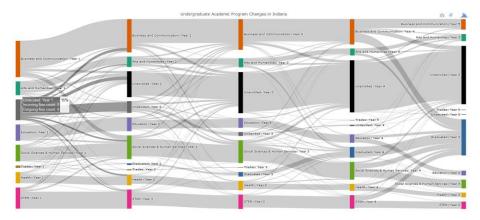
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Undergraduate Academic Program Changes



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Undergraduate Academic Program Changes

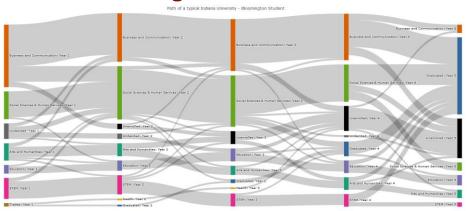


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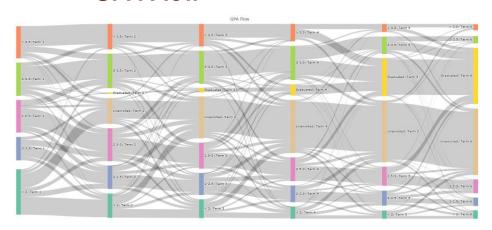
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Path of a Indiana University Bloomington Student



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GPA Flow

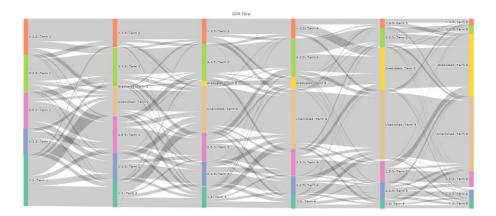




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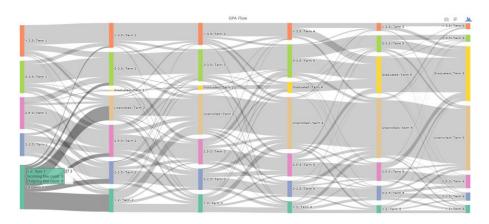
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GPA Flow





GPA Flow

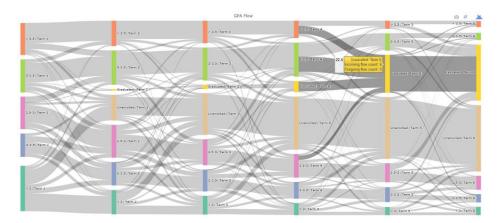


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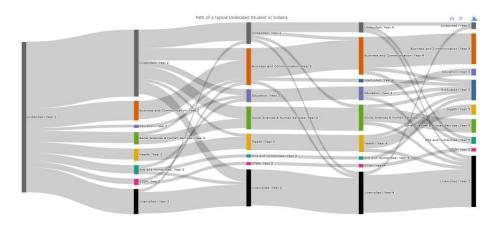
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GPA Flow



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Path of an Undecided Student

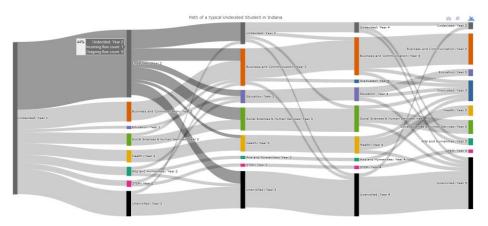




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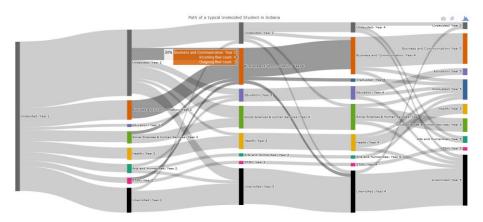
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Path of an Undecided Student





Path of an Undecided Student

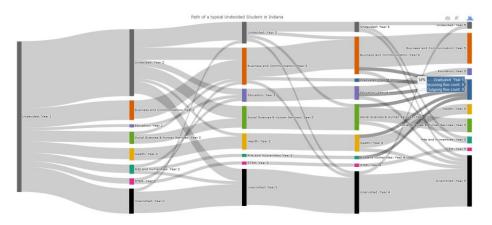




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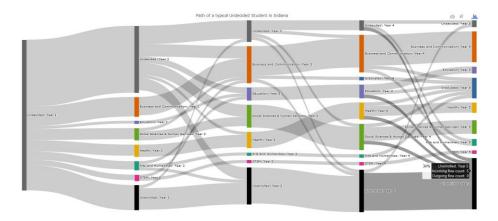
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Path of an Undecided Student





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AREAS FOR FURTHER RESEARCH



Further Research & Improvements

· Resolve data issues



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Further Research & Improvements

- · Resolve data issues
- · Look at the impact of financial aid

Further Research & Improvements

- · Resolve data issues
- · Look at the impact of financial aid
- Study the correlation between dataset dimensions



Thank You

For questions please reach out to Adam or Alex at the Email address below:

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