

Links to code samples on Github by project

1. [CallistoReinvented: Web application for intelligent job search and recommendation \(2014\)](#) - **Ruby on Rails, Python, SQL**

Summary: Build web application using MVC framework, agile and test-driven development. Designed automated tagging system for job listings using NLP techniques. Relevance ranking for search results and job recommendation system are individually customized for users based on their profile information and browsing history.

Documentations: [Requirements and Specifications](#), [Design Document](#)

Major code contributions:

- Parse HTML data, automate the tagging of job listings using NLP techniques, update server with new job listings: [htmlparser.py](#) [jobtagger.py](#) [post_jobs.py](#)
- Backend model and controllers: [jobposting.rb](#) [company.rb](#) [jobposting_controller.rb](#) [companies_controller.rb](#)
- Testing using Rspec: [jobposting_spec.rb](#) [company_spec.rb](#) [jobpostings_controller_spec.rb](#) [companies_controller_spec.rb](#)

2. [New Algorithm for Generating Dorling Cartograms \(2014\)](#) - **Python (pandas, json), D3.js**

Paper: <http://goo.gl/NT00Os>

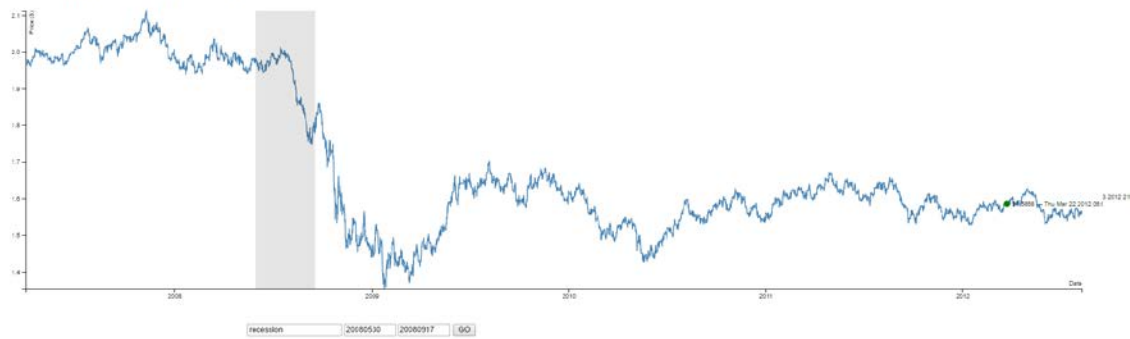
Designed important constraints and optimizations for the automated drawing of Dorling cartograms. Data wrangling of Yelp Challenge Dataset and web data to aggregate and generate new features. Created web visualization with animated cartogram drawing process.

3. [SimpleDB: Basic database management system \(2013\)](#) - **Java**

Summary: Implemented core modules for data access and storage, query processing operators, buffer pool management, query optimization, transactions, locking, and concurrent queries.

4. [Predictive Model of Foreign Exchange Rate with News Matching \(2014\)](#) - **R, D3.js, HTML**

GBPUSD Foreign Exchange data 2007 - 2012



Results:

[Gasoline Prices Rise, but at a Slower Pace](#) | 2008-09-17

Gasoline prices eased a bit as oil companies reported that the damage from Hurricane Ike to production platforms and refineries appears to be relatively minor.

[Perhaps Time to Play Offense](#) | 2008-09-17

The government has acted aggressively, but not on the underlying reasons that the economy got into this mess.

[Fearing Worse to Come, Investors Drive Dow To Biggest Loss Since '01](#) | 2008-09-16

Fearing that the crisis in the financial industry could shun the broader economy, investors drove stocks down almost 5 percent Monday, sending the Dow Jones industrial average and Standard & Poor's 500-stock index to their lowest levels in two years...

[China Deal Drives Fiske For Coke](#) | 2008-09-13

The recent agreement to pay \$2.5 billion for China Huaiyuan Juice chisels away at Coke's dependence on carbonated drinks and expands the company's presence in a huge, fast-growing economy.

[Inflation Falls, as Do Retail Sales](#) | 2008-09-13

News on the economy was mixed on Friday morning, with the release of a relieving producer price index report and a discouraging retail sales report for August.

[The Return of the Misery Index](#) | 2008-09-13

It has been almost three decades since the term "misery index" gained political currency, as President Jimmy Carter confronted the twin problems of rising inflation and unemployment.

[Saudi Vow To Maintain Oil Output](#) | 2008-09-11

Saudi officials assured world markets that they would continue to pump as much oil as needed.

[Bargain Hunters With Deep Pockets](#) | 2008-09-08

From September 2006 to last April, club stores like Sam's Club and Costco experienced a big increase in shoppers, particularly more affluent ones.

[Waking the 'Oah, Tightening the Belt](#) | 2008-09-07

Faith Popcorn, the trend-spotter, personifies the trends she's spotting these days. Ms. Popcorn, who on Monday will release a study on "the culture of the recession," said last week that economic conditions had changed her own behavior.

[U.S. Jobless Rate Climbs Past 6%, Highest Since '03](#) | 2008-09-06

The McCain and Obama campaigns responded quickly to a report that the jobless rate jumped to 6.1 percent in August.

Summary: Created two-month forecast of US-SGD exchange rates using time series analysis methods. Built web visualization in D3 with click and drag function for convenient query range selection, sends query request to NYTimes article search API and displays the results.

5. [General coding exercises](#) - Python