

NMS 220 – Media Computation

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Media computation

- The applied and theoretical **computational (programming) concepts** involved **in New Media technologies**, including those involved in storing, analyzing, visualizing, and manipulating digital media.

INTERDISCIPLINARY EXPLORATIONS

CATEGORY II: DIGITAL APPLICATIONS

CSC 210 (Computer Science and Programming I)

MEDIA COMPUTATION (18 CREDITS)

REQUIRED

CSC 231 Computer Science and Programming II (Stage II Writing)

SELECT 12 CREDITS

CSC 230 Discrete Mathematics for Computer Science
CSC 270 Data Structures
CSC 305 Data Mining and Applications
CSC 311 Computer & Video Games Development
CSC 335 Design and Analysis of Computer Algorithms
CSC 341 Database and Information Management

REQUIRED TIER III CAPSTONE COURSE

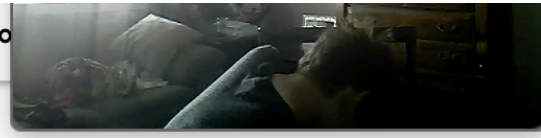
CSC 450 Senior Research

Current jobs involving media computation

- Web developer
- Mobile app developer
- Multimedia programmer
- Social media strategist
- Digital marketing analyst



Image source: <http://www.appschopper.com/>



JOE KEOHANE BUSINESS 02.16.17 07:00 AM

WHAT NEWS-WRITING BOTS MEAN FOR THE FUTURE OF JOURNALISM

The News in Crisis

future tense

THE CITIZEN'S GUIDE TO THE FUTURE

MARCH 17 2014 5:30 PM

The First News Report on the L.A. Earthquake Was Written by a Robot

A **scheduled bot** posts messages based on the time. The **Big Ben bot** tweets every hour.

SAMPLE CODE

```
when(time_of_day == 1)
  tweet("BONG")
```

Amplification bots, like those sold by Devumi, follow, retweet and like tweets sent by clients who have bought their services.

SAMPLE CODE

```
when(client_tweet)
  retweet(client_tweet)
```

Watcher bots monitor other Twitter accounts or websites and tweet when something changes. When the United States Geological Survey posts about earthquakes in the San Francisco Bay Area, the **SF QuakeBot** tweets the relevant information.

SAMPLE CODE

```
when(earthquake)
  tweet(quake_summary)
```

https://twitter.com/big_ben_clock

<https://twitter.com/earthquakesSF>

Cutting-edge work involving media computation

- Hoaxy – visualizing the spread of information and fact checking across social media
 - <http://hoaxy.iuni.iu.edu/>
- Wall of Now – a multi-dimensional media browser organizing media by entity (person, country, etc)
 - <https://www.media.mit.edu/projects/wall-of-now/overview/>

Cutting-edge work involving media computation

- Captions++ -- time-positioned embedded comments in videos
 - <https://www.media.mit.edu/projects/captions/overview/>
- Street Change – highlights changes over time
 - <http://streetchange.media.mit.edu/>
- Audio manipulation, facial enhancement, facial re-enactment
 - <http://futureoffakenews.com/>

Sample Eastern projects

Does twitter “mood” vary with day of the week?

(Eastern student Senior Project)

Thursday Morning

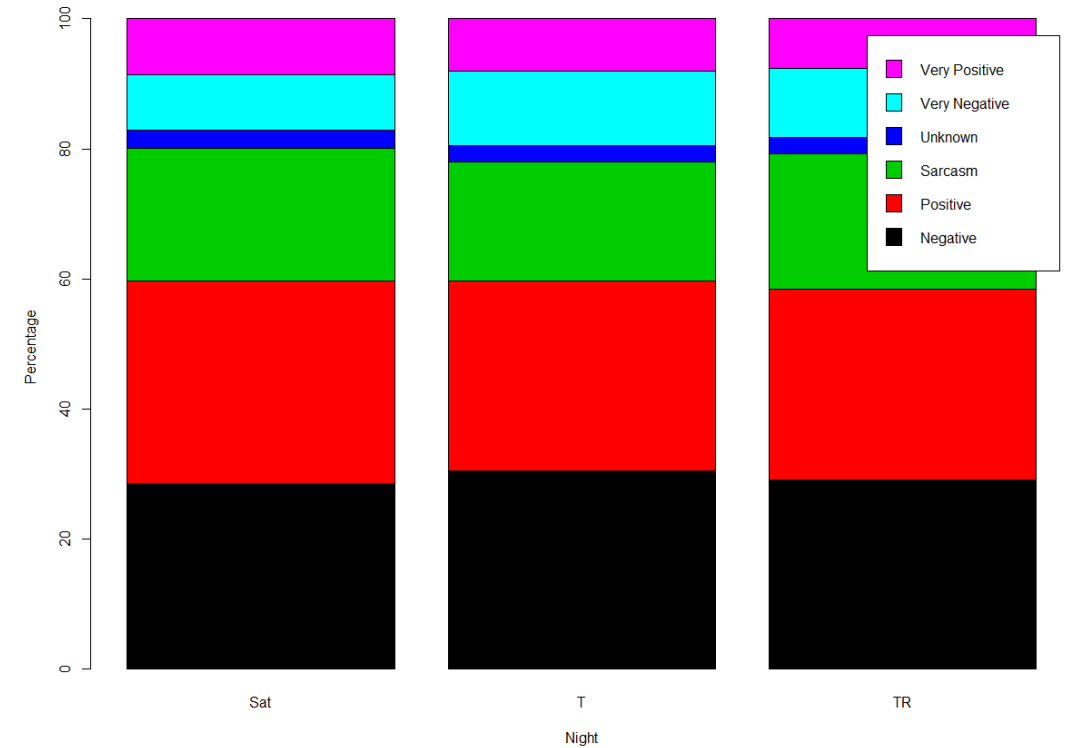
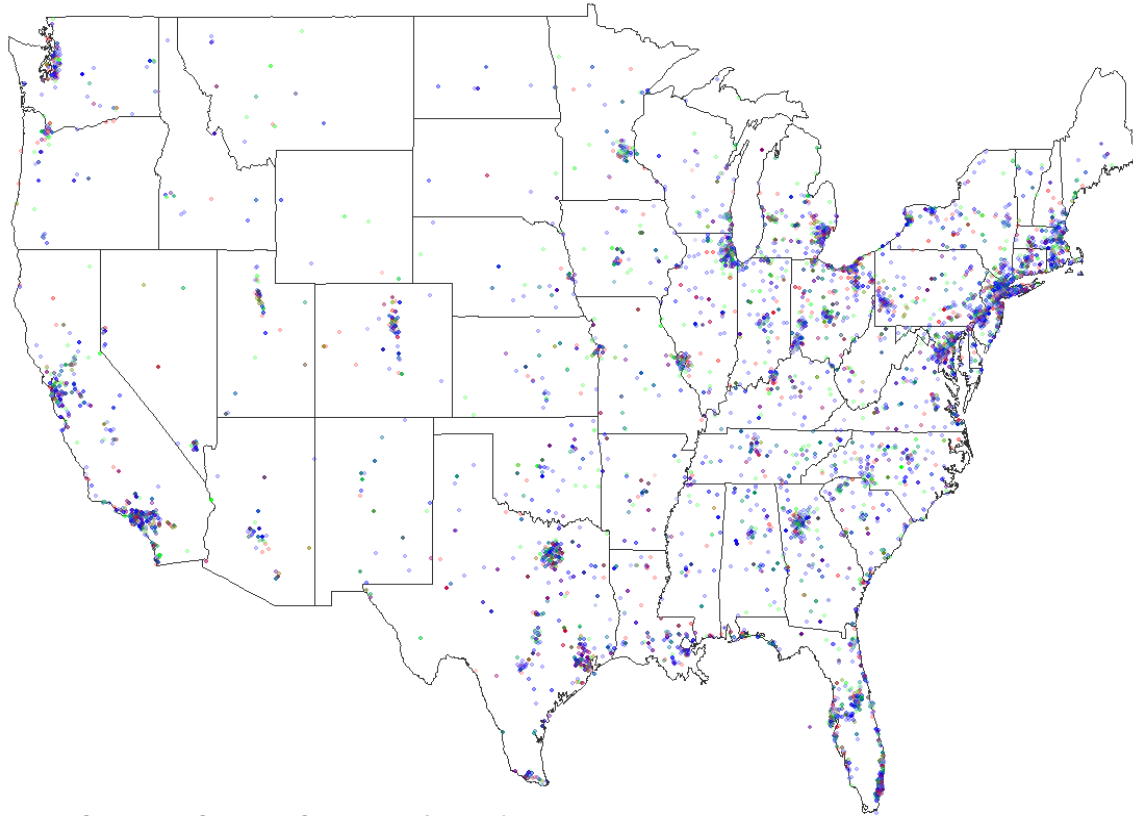


Figure 1: A figure of Data from a Thursday Morning.

Blue = Neutral, Red = Negative, Green = Positive

What programming languages are in most demand by employers? (Eastern student Senior project)

- A web application that...
 - Connects to Monster.com and searches jobs by keyword and location
 - Summarizes jobs based on programming languages that are mentioned

Jython Music – Creative Programming in Python

- <https://jythonmusic.me/>
- We will look at the *MusicalCircles* example