

# INLS 641: Visual Analytics

## Welcome

Class 1

# Today's Agenda

- Introductions
- Visual Analytics: A Definition
- Course Overview
  - Resources
  - Schedule
- Skills Questionnaire
- New Assignments

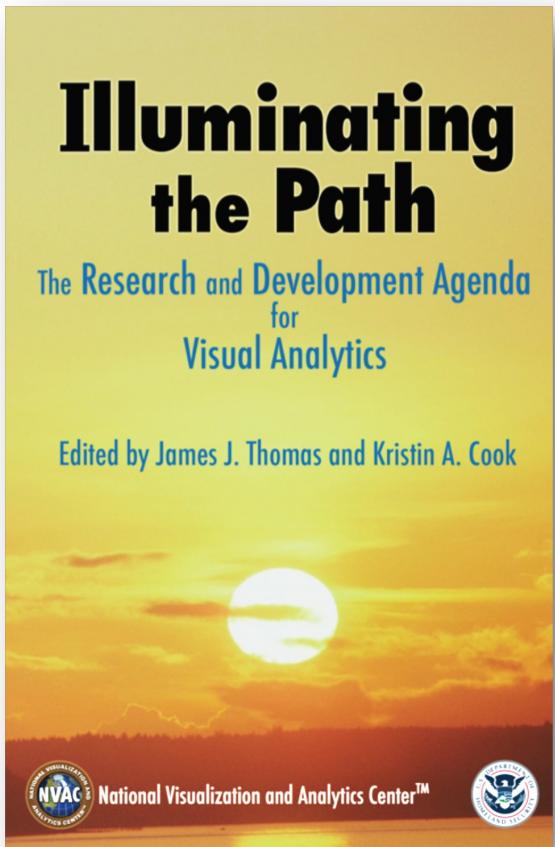
# Introductions

- **Interviews in pairs (~5 minutes)**
  - Name, where you are from, your degree program
  - Why are you here? What do you hope to gain from this course?
  - One interesting fact...
- **Next you'll introduce your partner to the class**

# **What is Visual Analytics?**

# Visual Analytics: A Definition

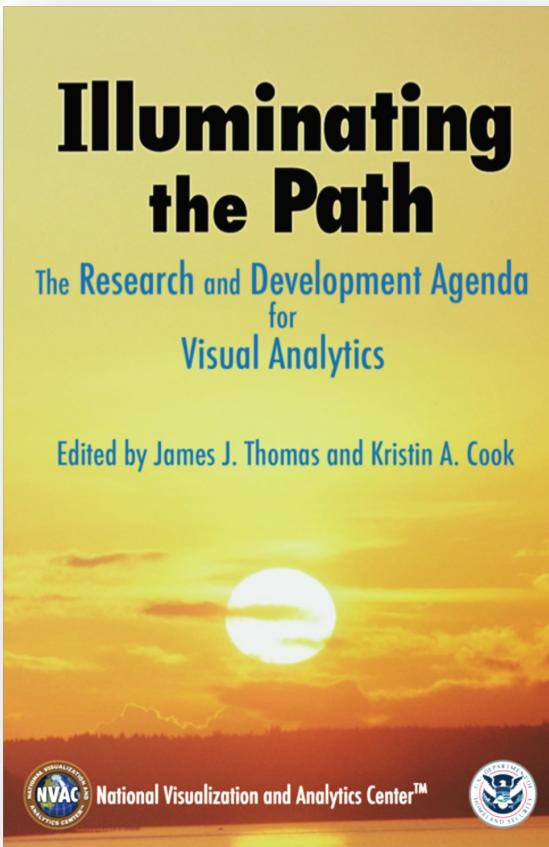
- *“Visual analytics is the science of analytical reasoning facilitated by interactive visual interfaces.*



# Visual Analytics: A Definition

(continued)

- “Visual analytics is a multidisciplinary field that includes the following focus areas:
  - *Analytical reasoning techniques...*
  - *Visual representations and interaction techniques...*
  - *Data representations and transformations...*
  - *Techniques to support production, presentation, and dissemination of the results..."*



# Who Can Benefit From Visual Analytics? Which types of users? Which domains?

# Course Overview

- **Part One: Fundamentals**

- Concepts

- Information visualization
    - Data representation and transformation
    - Analytical reasoning
    - Collaboration and dissemination

- Hands-on with two JavaScript libraries

- D3 ([d3js.org](http://d3js.org))
    - Simple Statistics ([simplestatistics.org](http://simplestatistics.org))



Simple Statistics

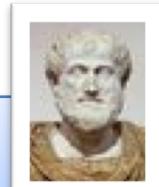
- **Part Two: Applications and Advanced Concepts**

- Transition from individual assignments to team projects
  - Student research presentations
  - Guests from SAS, the Sheps Center, and Duke Libraries



# Course Overview (2)

- **This is a “Project Course”**
  - Learning by doing
  - Semester project in lieu of final exam
  - **“For the things we have to learn before we can do them, we learn by doing them.”**



Aristotle

- **You must know how to program. This is a formal prerequisite.**
  - Coursework will use JavaScript, HTML, CSS
  - **These languages will not be formally taught!** You must either:
    - Know these languages already,  
or
    - Be comfortable learning as you go.



# Course Overview (3)

- **Class Website**
  - Syllabus
  - Schedule (tentative; subject to change)
  - Assignment descriptions
  - Lots of other useful information
  - [https://ils.unc.edu/courses/2018\\_fall/inls641\\_001/](https://ils.unc.edu/courses/2018_fall/inls641_001/)
- **Sakai**
  - Assignment submission
  - Grades
  - Lecture slides
  - <https://sakai.unc.edu>



# Course Overview (4)

## We will use Piazza for class discussions

If this is your first time using Piazza, please visit <https://piazza.com> and click **Students Get Started** to create your free account.

<https://piazza.com/unc/fall2018/inls641/home>

The screenshot shows the Piazza homepage with a red arrow pointing to the "Students Get Started" button at the bottom left. The page features a banner with the text "The incredibly easy, completely free Q&A platform" and "Save time and help students learn using the power of community". It includes a screenshot of the Piazza interface and a list of features:

- Wiki style format enables collaboration in a single space
- Features LaTeX editor, highlighted syntax and code blocking
- Questions and posts needing immediate action are highlighted
- Instructors endorse answers to keep the class on track
- Anonymous posting encourages every student to participate
- Highly customizable online polls
- Integrates with every major LMS and is FERPA compliant

At the bottom, there are three buttons: "Students Get Started" (highlighted by the red arrow), "Professors and TAs Get Started", and "View a Real Class".

# Course Overview (5)

## Office Hours

201 Manning Hall  
**Tuesdays 11 am-12 noon**

*Or by appointment...*



```
<style>

.node {
  font: 11px "Helvetica Neue", Helvetica, Arial, sans-serif;
}

.link {
  stroke: steelblue;
  stroke-opacity: .4;
  fill: none;
}

</style>
<body>
<script src="http://d3js.org/d3.v3.min.js">
<script>

var diameter = 960,
    radius = diameter / 2,
    innerRadius = radius - 120;

var cluster = d3.layout.cluster()
  .size([360, innerRadius])
  .sort(null)
  .value(function(d) { return d.size; })

var bundle = d3.layout.bundle();

var line = d3.svg.line.radial()
  .interpolate("bundle")
  .tension(.85)
  .radius(function(d) { return d.y; })
  .angle(function(d) { return d.x / 180 * Math.PI; });


```

# This Course Requires Programming

JavaScript



# Skills Assessment

- Ability to program is a **strict** prerequisite. You should have "done well" in INLS560 as a minimum.
  - Three individual homework assignments require programming
  - Semester project requires software development
- However, we all have different skill sets and levels of proficiency

- Please complete a “Skills Assessment” questionnaire
  - Not graded
  - Designed to help me better calibrate the course to match your backgrounds

# New Assignments

- **Readings**
  - See website schedule for details and links to material
- **Assignments**
  - A1: Environment Setup. **Due in one week.**
  - A2: Semester Project Proposal. **Due in two weeks.**
- **Check access and review material:**
  - Class Website
  - Sakai
  - Piazza