Enabling Technology: Integrated Statistics Learning Environment

- The ISLE platform enables interactive, real-time collaborative instruction
  - Leverages existing content – static documents and pre-recorded video lectures
  - Author bespoke interactive lessons on a locally installed ISLE Editor
  - Browser-based presentation for ease-of-use and universal compatibility
  - Instructor and student annotation functionality to facilitate note-taking
  - Course material gating, and support for individual scaffolding
  - Sketchpad, chat, comment, and group presentation functionality for collaboration
  - Real-time interactive polls and clicker-style questions
  - Real-time question queues and conceptual understanding feedback features
  - Real-time reporting on student engagement and lesson progress
  - Support for remote learning, including audio/video conferencing with exportable transcription
ISLE Features and Functionality

Collaboration: Connecting Students and Instructors

- Interact with data / data exploration
- Group report authoring with templates
- Communicate via real-time video
- Communicate via chat with simple file sharing (images/pdfs)
- Share comments on data sets
- Work via shared notes/sketchpad functionality

CMU © 2020
ISLE Data Explorer

Data Exploration: Integrated Statistics Learning Environment

- The ISLE platform support robust capabilities for working with data
  - ISLE allows students to explore data sets via visualizations and summary statistics inclusive of functionality to run hypothesis tests and fit statistical models
  - An integrated right-text editor with Markdown support allows students to practice writing data analysis reports
  - Students can perform the entire data analysis workflow without any coding, working autonomously or in groups to create data analysis reports and presentations (oral/posters) directly in ISLE
  - Public Data Explorer data sets can be found here: http://stat.cmu.edu/isle/data_explorers.html
ISLE Content Authoring

Onboarding: the ISLE Editor for Content Authoring

- ISLE runs natively in all major web browsers (Chrome, Safari, Firefox, Edge)
- Mobile and tablet support
- No additional licenses required
- No software installation required by students
- Minimal ramp-up required – existing materials can be leveraged to create lessons in ISLE
- Hosting required for course content - Beta Users welcome to utilize CMU’s ISLE server (four core machine each with 2.80 GHz | 8 GB RAM)
- Self-hosting requires similar infrastructure; familiarity with basic Unix system administration, familiarity with terminal usage recommended

Instructions and guidance for self-hosting: https://isledocs.com/docs/overview/install

The ISLE Editor is available for Windows, macOS, or Linux
ISLE Use Cases and Support

ISLE Use Cases

- Lecture-based courses with slides or live remote instruction
- Lecture-based or seminar courses with group discussions
- Instruction with real-time annotation of materials
- Flipped classroom, video-based instruction
- Analytic projects and coursework requiring data modeling and visualization

Support for ISLE

- Documentation available for content creation and platform navigation
- Frequent webinars for instructors for build and use support
- Weekly office hours for live teleconference support
- Email queue for helpdesk-style support

CMU © 2020
**Contacts**

**Integrated Statistics Learning Environment**

- ISLE originated as the thesis project of Dr. Philipp Burckhardt, a current post-doc in the Statistics & Data Science department at CMU

- ISLE has been used in graduate and undergraduate courses at CMU in the last year – references available upon request

- For more information, or to be added to our distribution list for future communications, contact Rebecca Nugent or Philipp Burckhardt

- Supplement material available - [http://stat.cmu.edu/isle](http://stat.cmu.edu/isle)

**Carnegie Mellon University Points of Contact:**

- **Rebecca Nugent**
  - Fienberg Professor in Statistics & Data Science
  - Associate Department Head
  - Department of Statistics & Data Science
  - rnugent@andrew.cmu.edu
  - 412.268.7830

- **Philipp Burckhardt**
  - Postdoctoral Scholar
  - Department of Statistics & Data Science
  - pburckhardt@cmu.edu
  - 412.726.5202