

# Mark Bryan

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## EDUCATION

**Cornell University, College of Engineering** B.S., Computer Science *Ithaca, NY May 2018*  
*Honors: College of Engineering Dean's List fall 2014, fall 2016, and spring 2017 · Dyson Business Minor for Engineers*

## EXPERIENCE

**Yelp** Software Engineer Intern *San Francisco, CA May 2017 – Aug 2017*

- Improved data documentation services and data warehouse reporting as a member of Yelp's Consumer Analytics and Metrics team.
- Developed backend infrastructure for collecting, cleaning, and analyzing usage data for Yelp's data warehouse and implemented frontend visualizations to describe and convey information to data warehouse administrators.
- Provided insight into how Yelp engineers query the data warehouse, guiding decisions to improve the performance of the data warehouse system.
- Collaborated with engineers from a variety of teams in order to accomplish project goals.
- Redesigned React user interface for data documentation service in order to improve developer workflow.
- Investigated methods to document data transformations in Yelp's data pipeline and contributed to planning meetings with members of the Data Pipeline team to improve the data pipeline infrastructure.

**Cornell Database Group, Data Vocalization Project** Research Assistant *Ithaca, NY Jan 2017 – Present*

- Researching optimization problem of how to represent structured data through audio interfaces by translating data into natural language speech.
- Collaborate with Professor Immanuel Trummer to develop an experimental database system funded by a Google Faculty Research Award.
- Implemented and refined exhaustive and polynomial time approximation algorithms that translate datasets into speech output. These algorithms minimize speaking time subject to user-defined precision constraints.
- Developing methods for translating large datasets and time series data into natural language summarizations.

**Cornell University** Teaching Assistant, Database Systems *Ithaca, NY Aug 2016 – Present*

- Conduct weekly office hours, create and update course assignments and solutions, and grade problem sets for Introduction to Database Systems course.
- Develop automated grading scripts used by team of 20 teaching assistants to optimize grading processes.

**Toast** Software Engineer Intern *Boston, MA Jun 2016 – Aug 2016*

- Improved database layer of Toast's core web application by refactoring the way developers write and release changes to data sources, increasing the reliability of deploying database schema migrations in both development and production environments and improving the efficiency of the engineering team.
- Presented new development workflow to 40+ member engineering team and developed tooling and documentation to facilitate the transition to the new schema migration process.

## PUBLICATIONS, PRESENTATIONS, & AWARDS

Immanuel Trummer, Jiancheng Zhu, **Mark Bryan**. "Data Vocalization: Optimizing Voice Output of Relational Data". PVLDB Volume 10, No. 11, August 2017.

- Paper available at <http://www.vldb.org/pvldb/vol10/p1574-trummer.pdf>
- Presenting research at the September 2017 VLDB Conference in Munich, Germany.

"CiceroDB: Optimizing Voice Output of Relational Data". BOOM 2017.

- Received Lockheed Martin Award at BOOM 2017, Cornell's annual showcase of student research and creativity in digital technology and applications.

## PROGRAMMING SKILLS AND TECHNOLOGIES

Java · Python · SQL · Swift · Amazon Redshift · JavaScript · React · CPLEX Linear Programming · Objective-C · C

## COMMUNITY SERVICE

**Cornell University** Engineering Peer Advisor *Ithaca, NY Aug 2016 – Aug 2017*  
Organized and presented at weekly meetings to introduce new engineering students to College of Engineering resources.

**Learn To Be** Tutor *Ithaca, NY Aug 2014 – Feb 2015*

Volunteered on a weekly basis as a tutor through Learn To Be, a national online tutoring organization that empowers disadvantaged students to succeed academically through forming mentoring relationships with college tutors.

## OTHER INFORMATION

Interests

Guitar · Biking · Cold-brewed coffee · *The Office* · St. Bernard dogs