

## BHAVYA

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### RESEARCH INTERESTS

Applications of Machine Learning, Data Mining and Human-Computer Interaction for Social Good (e.g. Education and Medical applications)

### EDUCATION

#### University of Illinois at Urbana-Champaign

Aug 2020-2024 (expected)

- Ph.D. in Computer Science

GPA: 4.0/4.0

#### University of Illinois at Urbana-Champaign

Aug 2018-May 2020

- MS (with Thesis) in Computer Science

GPA: 4.0/4.0

#### University of Illinois at Urbana-Champaign

Aug 2016

- BS in Computer Science with Honors

GPA: 3.63/4.0

Relevant Coursework:

- Information Extraction, Machine Learning, Information Retrieval, UI Design, Data Mining, Meta-Learning

### CONFERENCE PUBLICATIONS

- **Bhavya** and ChengXiang Zhai. "Explanation Mining", In *Proceedings of the Seventh ACM Conference on Learning @ Scale (L@S)*, 2020. URL=<https://bit.ly/3rEx7eJ>
- **Bhavya**, Assma Boughoula, Aaron Green, and Chengxiang Zhai. "Collective Development of Large Scale Data Science Products via Modularized Assignments: An Experience Report", In *Proceedings of the 51st ACM Technical Symposium on Computer Science Education (SIGCSE)*, 2020. URL=<http://bit.ly/2stSYvv>
- Sahiti Labhishetty\*, **Bhavya\***, Kevin Pei\*, Assma Boughoula, and Chengxiang Zhai. "Web of Slides: Automatic Linking of Lecture Slides to Facilitate Navigation.", In *Proceedings of the Sixth ACM Conference on Learning@ Scale (L@S)*, 2019. URL=<http://bit.ly/35r4FRY>
- Sahiti Labhishetty\*, **Bhavya\***, Kevin Pei\*, Assma Boughoula, and Chengxiang Zhai. "WOSView Demo: A Tool to Explore the Web of Slides." In *Proceedings of the Sixth ACM Conference on Learning@ Scale (L@S)*, 2019. URL=<http://bit.ly/2rSHSAb>

\* denotes equal contribution

### RESEARCH EXPERIENCE

#### Research Projects| Advisor: Dr. ChengXiang Zhai

Summer 2020-Ongoing

- Developing tools to facilitate social science research by text analysis of historical news and research articles
- Developing an intelligent mobile application to assist people with multiple sclerosis in managing their disease

#### Research Assistantship | Open Information Extraction | Advisor: Dr. Kevin Chang

Aug 2019- May 2020

- Online web-scale extraction and ranking of open-domain relations between entities of users' interests
- Proposed using reinforcement learning to schedule and optimize online extractions
- Proposed using entity-type information to organize and correct errors in extractions

#### Research Assistantship | Family Behavior Support App | Advisor: Dr. Karrie Karahalios

Aug 2019-May 2020

- Maintained and enhanced an iOS app that helps families implement Functional Assessment (FA)-based strategies to prevent challenging behaviors in young children
- Collaborated with the Special Education Dept. at UIUC, University of Washington, University of Vanderbilt
- Built and pushed multiple versions on the App Store for beta testing and Randomized-Controlled Trials (RCTs)
- Adapted app to support all iPhone and iPad devices, analyzed user logs to facilitate the study

#### Research Project | Brain Image Analysis | Supervisor: Dr. Justin Rhodes

Summer 2015, Jan-Mar 2017

- Collaborated with neuroscientists for quantitative analysis of the impact of exercise on aging in mice
- Built desktop applications in Python to analyze terabytes of brain slice images in. ome, ImageJ. roi formats. Applications generate graphs and perform curve fitting to study metabolic processes in the brain
- Expanded the team's analytical capabilities by 2x and reduced the analysis time by 30-100x

## TEACHING EXPERIENCE

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**Teaching Assistant | Instructor: Dr. ChengXiang Zhai | Course: Text Mining** *Spring 2019, Fall 2018, 2020*

- Graded and conducted office hours for both online (on Coursera) and on-campus offerings with >200 students
- Proposed a new type of assignment called synergistic modular assignment. Assignment enabled students to learn all the steps involved in implementing a data science workflow, and collectively develop a search engine for finding expert faculty (URL=<http://bit.ly/2RTIIIIE>)
- Head TA during Fall 2020 leading a team of 8 TAs and 400 undergraduate and graduate students

## WORK EXPERIENCE

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**Junior Data Scientist | Gartner Inc.** *Jul 2016-Jul 2018*

- **Summary:** Led the design and development of Text Mining and Data Analytics platforms. Responsible for understanding business requirements, devising and executing data science solutions, and communicating complex technical models with the business leaders
- **Highlights:**
  - Modeled user activities and retention using n-order discrete and continuous Markov Chain
  - Trained and deployed Deep and Wide Learning Recommender model to increase user engagement
  - Developed a unified text mining platform thereby saving \$200k/year on vendor expenses
  - Built a recommender system with Alternating Least Squares, Collaborative Filtering ensemble models
  - Formulated implicit rating for recommender system by combining site visit frequency and recency
  - Scheduled jobs using Apache Spark and Oozie for ingesting and analyzing companies' earnings calls
  - Created SQL queries to compute tf-idf of ngrams in near real-time based on filters applied
  - Resulted in an increase in all KPIs like click-through-rates, user retention by double digits

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**Part-time Data Analyst | Gartner Inc.** *Oct 2015-Jun 2016*

- Lead intern for analyzing text data using techniques like Dependency Parsing, Hierarchical Topic Mining

## SERVICES

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- Peer-reviewer SIGCSE 2021

## ACHIEVEMENTS, LEADERSHIP ACTIVITIES, AND OTHER INTERESTS

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- Mentored 4 MS and undergrad students at UIUC
  - Outstanding Employee at Gartner *2017-2018*
  - Selected representative and technical interviewer for Gartner recruiting events *2017-2018*
  - Mentored 20+ data science and software engineering interns and juniors at Gartner *2016-2018*
  - Secured 2<sup>nd</sup> position at UIUC Data Hackathon *Fall 2015*
  - Composed 50+ poems in English and Hindi

## SKILLS

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- **Programming Languages:** Python, Java, C++, C, Swift, JavaScript, SQL
  - **Frameworks/Libraries:** Pytorch (Bert, RNN, LSTM), scikit-learn, spaCy, NLTK, ElasticSearch, Apache Spark