BHAVYA

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RESEARCH INTERESTS

Text Mining and Analysis, Education, Natural Language Processing, Human-Computer Interaction

EDUCATION

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 2014-Aug 2016*
- BS in Computer Science with Honors GPA: 3.63/4.0

Manipal University, India *Aug 2012-Jul 2014*
- Completed coursework towards BS in Computer Science GPA: 3.89/4.0

Relevant Coursework:
- Data Mining, Information Extraction, Machine Learning, Information Retrieval, UI Design, Algorithms

CONFERENCE PUBLICATIONS

- **Bhavya**, Assma Boughoula, Aaron Green, and Chengxiang Zhai. "Collective Development of Large Scale Data Science Products via Modularized Assignments: An Experience Report", To Appear *In Proceedings of the 51st ACM Technical Symposium on Computer Science Education (SIGCSE),* 2020.
  DOI https://doi.org/10.1145/3328778.3366961
- Labhishetty Sahiti*, **Bhavya***, Kevin Pei*, Assma Boughoula, and Chengxiang Zhai. "Web of Slides: Automatic Linking of Lecture Slides to Facilitate Navigation.", In *Proceedings of the Sixth (2019) ACM Conference on Learning@ Scale (L@S)*, 2019. URL https://dl.acm.org/citation.cfm?id=3333668
- Labhishetty Sahiti*, **Bhavya***, Kevin Pei*, Assma Boughoula, and Chengxiang Zhai. "WOSView Demo: A Tool to Explore the Web of Slides." In *Proceedings of the Sixth (2019) ACM Conference on Learning@ Scale (L@S)*, 2019. URL https://dl.acm.org/citation.cfm?id=3333669

** denotes equal contribution*

RESEARCH EXPERIENCE

Explaining Lecture Slides | Faculty Advisor: Dr. ChengXiang Zhai *Fall 2019*
- Leveraging textbooks and lecture transcripts to augment lecture slides with text-based explanations
- Currently building a deep learning model to extract expository excerpts from textbooks

Modular Open Information Extraction | Faculty Advisor: Dr. Kevin Chang *Fall 2019*
- Online extraction and ranking of open-domain relations between entities of users' interests
- Assembling core relation phrases and contextual phrases to obtain complete, readable extractions efficiently

Family Behavior Support App | Faculty Advisors: Dr. Karrie Karahalios, Dr. Hedda Meadan *Jan 2019-Present*
- Maintaining and enhancing an iOS app that helps families implement Functional Assessment (FA)-based strategies to prevent challenging behaviors in young children
- Collaborating with the Special Education Departments at 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

Web of Slides | Faculty Advisor: Dr. ChengXiang Zhai *Fall 2018, Spring 2019*
- Developed a weakly-supervised model for linking related MOOC lecture slides

- Deployed a web application to navigate through the Web of Slides in a course with 200+ students
- Implemented site-wide logging to track users click-through rates, dwell time and search queries
- Conducted a user study on students to gauge the utility of the tool for learners

Brain Image Analysis | Faculty Advisor: 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

Teaching Assistant | Instructor: Dr. ChengXiang Zhai | Course: Text Mining (CS 410) *Fall 2018, Spring 2019*

- Grading and conducting office hours for both MOOC and on-campus course offerings with 200+ students
- Led the design and development of 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

WORK EXPERIENCE

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

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

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

ACHIEVEMENTS, LEADERSHIP ACTIVITIES, AND INTERESTS

- Supervising 1 Graphic Design master's student at UIUC *2019*
- Completed the Deep Learning specialization by deeplearning.ai on Coursera with 100% score *Spring 2018*
- Rated 'Exceeds Expectations' at GartnerInc *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 2nd position at UIUC Data Hackathon *Fall 2015*
- Achieved 1st position in the CS department at Manipal University *2012-2014*
- Composed 50+ poems in English and Hindi

SKILLS

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