

Research Interest

- Case-based Reasoning Case Retrieval, Case Adaptation, Case Base Maintenance, Similarity Metric
- Machine Learning Feature Weighting, Explainable AI, Difference Pattern
- Cross-discipline Cognitive Science, Counseling Psychology

Education

- 2015–present **PhD, Computer Science**, *Indiana University Bloomington*, Indiana, USA.
Minor in Cognitive Science
- 2011–2014 **B.A., Computer Science & Math**, *The College of Wooster*, Ohio, USA.
Magna Cum Laude
- 2010–2011 **Computer Science & German**, *Beloit College*, Wisconsin, USA.

Publications

Journal Articles

- 2020 Nicholas A. Bowman, Nayoung Jang, D. Martin Kivlighan, Nancy Schneider, and Xiaomeng Ye. The Impact of a Goal-Setting Intervention for Engineering Students on Academic Probation. *Research in Higher Education*, volume 61, pages 142–166, February 2020.
- 2018 III D. Martin Kivlighan, Marie C. Adams, Kuo Deng, Xiaomeng Ye, and Elizabeth J. Menninga. A social network analysis of international collaboration in counseling psychology. *The Counseling Psychologist*, volume 46, pages 274–295, 2018.

Communicated Journal Article

In Conference Proceedings

- 2021 Xiaomeng Ye, Ziwei Zhao, David Leake, Xizi Wang, and David Crandall. Applying the case difference heuristic to learn adaptations from deep network features. In *IJCAI-21 Workshop on Deep Learning, Case-Based Reasoning, and AutoML: Present and Future Synergies*, 2021. In press.
- 2021 Xiaomeng Ye, David Leake, Vahid Jalali, and David Crandall. Learning adaptations for case-based classification: A neural network approach. In *Case-Based Reasoning Research and Development, ICCBR 2021*. Springer, 2021. In press.
- 2021 David Leake, Xiaomeng Ye, and David Crandall. Supporting case-based reasoning with neural networks: An illustration for case adaptation. In *AAAI-MAKE 2021: Combining Machine Learning and Knowledge Engineering*, 2021.
- 2021 David Leake and Xiaomeng Ye. Harmonizing case retrieval and adaptation with alternating optimization. In *Case-Based Reasoning Research and Development, ICCBR 2021*. Springer, 2021. **Best paper award.**

- 2020 Xiaomeng Ye, David Leake, William Huijbregtse, and Mehmet Dalkilic. Applying class-to-class siamese networks to explain classifications with supportive and contrastive cases. In *International Conference on Case-Based Reasoning*, pages 245–260. Springer, 2020.
- 2020 David Leake and Xiaomeng Ye. Learning to improve efficiency for adaptation paths. In Ian Watson and Rosina Weber, editors, *Case-Based Reasoning Research and Development*, pages 325–340, Cham, 2020. Springer International Publishing.
- 2019 Xiaomeng Ye. C2C trace retrieval: Fast classification using class-to-class weighting. In *Proceedings of the Thirty-Second International Florida Artificial Intelligence Research Society Conference, FLAIRS 2019*, pages 353–358, 2019.
- 2019 David Leake and Xiaomeng Ye. On combining case adaptation rules. In Kerstin Bach and Cindy Marling, editors, *Case-Based Reasoning Research and Development*, pages 204–218, Cham, 2019. Springer International Publishing.
- 2018 Xiaomeng Ye. The enemy of my enemy is my friend: Class-to-class weighting in k-nearest neighbors algorithm. In *Proceedings of the Thirty-First International Florida Artificial Intelligence Research Society Conference, FLAIRS 2018*, pages 389–394, 2018.

Research Experience

- May, 2020 – present **Research Assistant in DL-CBR Group**, Indiana University Bloomington, IN.
Involved in multiple research projects: (1) Survey of combining DL and CBR; (2) Using neural network to carry out case adaptation in regression and classification tasks.
- Advisor : **Dr. David Leake**, Professor of Computer Science , The Luddy School of Informatics, Computing, and Engineering, Indiana University ([Personal Web-page](#))
Dr. David Crandall, Associate Professor, The Luddy School of Informatics, Computing, and Engineering, Indiana University ([Personal Web-page](#))
- 2020 **Gratitude Journal App**.
Developed a mobile app for both android and iOS, for gratitude support group.
Collected user journals on a secured server.
- Summer 2017 **Research Intern**, Knexus Research Corporation, National Harbor, MD.
Worked on an Information Extraction task using technology including Apache UIMA, link-grammar, POS tagging, C45 decision tree.
Built a machine learning application, which learns from annotated training examples. Trained model can extract information such as assignee, due date, action, start date from an unstructured text (eg. Email).
- 2014 **Undergraduate Thesis: Evolving Meaningful Lambda Calculus Functions using Genetic Programming**.
Applied genetic programming to evolve multiple mathematical operators for Church numerals.
Year-long independent study finished with a graduation thesis.

Teaching Experience

- 2017-2021 **Research Mentor for Undergraduate Research Opportunities in Computing**, Indiana University Bloomington, Bloomington, IN.
Mentored five teams of 1-2 novice researchers in topics of their choice, including: instance-based reasoning, siamese network, case-based reasoning, and forgery detection.
Each mentorship is a semester-long project with weekly meeting, literature review, brainstorming, coding review, and project presentation.

- 2015-2020 **Associate Instructor, Indiana University Bloomington**, Bloomington, IN.
 Taught in classrooms of various sizes ($< 50^a$ or $> 100^A$) and levels (undergraduate^b or graduate^B).
 Designed course material and homework ^C. Hosted labs and office hours. Graded students' projects and homework. Attended regular meetings with professors and fellow instructors. Courses taught include:
 Discrete Structures for Computer Science ^{Ab}, Fall 2015-Fall 2016
 Introduction to Algorithm Design and Analysis ^{ab}, Spring 2017
 Applied Machine Learning ^{AB}, Fall 2017
 Introduction to Data Analysis and Mining ^{AB}, Spring 2018
 Elements of Artificial Intelligence ^{AB}, Fall 2018
 Introduction to Computers and Programming ^{AbC}, Spring 2019-Fall 2019
 Computer Vision ^{AB}, Spring 2020
- Fall 2012-2014 **Teaching Assistant for Computer Science Department, The College of Wooster**, Wooster, OH.
 Facilitated the teaching of classes including Java, C++, Python, and Alice.
 Attended labs and hosted office hours.
 Graded students' labs and projects. Analyzed and reported results to professors.
- Spring 2012-2013 **Grader for Mathematics Department, The College of Wooster**, Wooster, OH.
 Graded students' homeworks. Analyzed and reported results to professors.

Industrial Experience

- 2014-2015 **Software Engineer, Cureo**, Wooster, OH.
 Worked on a business-oriented network platform in a startup setting.
- Spring 2014 **Software Engineering Intern, Westfield Insurance**, Westfield Center, OH.
 Worked on the front-end of a testing software for QA usage.
 Programmed with JSF framework, Javascript, SQL.
- Summer 2013 **Game Developer Intern, Dreamwork.cn**, Chengdu, Sichuan, China.
 Worked on an iOS massive multiplayer online role playing game.
 Worked in cooperation with other programmers, artwork designers, and game designers.
 Built game logic, interfaces, animations, mini-map, visual effects and gadgets.
- Winter 2012 **Software Engineering Intern, Cureo**, Wooster, OH.
 Rehired and continued my work during Summer 2012.
- Summer 2012 **Software Engineering Intern, Cureo**, Wooster, OH.
 Worked on a business-oriented network platform in a startup setting.
 Learned and coded with Javascript, HTML, CSS, JQuery, ASP.NET, C#, SQL.
 Built 600 unit tests, implemented both front-end webpages and back-end database in a MVC website project

Fellowships & Awards

- 2021 Best Paper Award in 29th **International Conference on Case-Based Reasoning (ICCBR 2021)**, Salamanca, Spain.
- 2018 Video Competition in 26th **International Conference on Case-Based Reasoning (ICCBR 2018)**, Stockholm, Sweden.
- 2018 Student Travel Grant for 26th **International Conference on Case-Based Reasoning (ICCBR 2018)**, Stockholm, Sweden.

Computer skills

- Programming Languages Python, PyTorch, keras, R, C, C++, JAVA
- Web Technologies HTML 5, PHP, JSP, Javascript
- Database SQL, MySQL, Apache, Neo4j

Services

Summer 2021 **Organizer, IJCAI 2021 DeepCBR workshop.**
2019 **Volunteer, Middle-way House, Bloomington, IN.**

Referees

My dissertation advisor, **Dr. David Leake** have been instrumental throughout my study. He and my committee member **Dr. David Crandall** are advisors/coauthors of my recent research. I helped **Dr. Mehmet Dalkilic** with teaching an introductory programming course for two semesters. I did a research internship advised by **Dr. Michael Floyd** in Summer 2017.

Dr. David Leake

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