

Ian S. Howell

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Education	Ph.D. student in Computer Science <i>University of Nebraska-Lincoln</i> (UNL), Lincoln, NE Advisor: Dr. Hongfeng Yu	2018–2023 (expected) GPA 3.9
	M.S. student in Computer Science <i>University of Nebraska-Lincoln</i> (UNL), Lincoln, NE Advisors: Dr. Hongfeng Yu and Dr. Berthe Y. Choueiry	2018–2021 (expected) GPA 3.9
	B.S., College of Arts and Sciences, with distinction <i>University of Nebraska-Lincoln</i> (UNL), Lincoln, NE Majors: Computer Science (focus on AI) and Mathematics UNL Honors Program	Fall 2014–Fall 2017 GPA 3.7
Publications	I. Howell , R.J. Woodward, B.Y. Choueiry, and H. Yu. “Visualizations to Summarize Search Behavior” Forthcoming in <i>Proceedings of the 26th International Conference on Principles and Practice of Constraint Programming</i> . 2020.	
	I. Howell , R.J. Woodward, B.Y. Choueiry, and H. Yu. A Qualitative Analysis of Search Behavior: A Visual Approach. In <i>Proceedings of the 2nd Workshop on Explainable Artificial Intelligence</i> held at IJCAI/ECAI. Pages 65–71. 2018.	
	I. Howell , R. Woodward, B.Y. Choueiry, and C. Bessiere. Solving Sudoku with Consistency: A Visual and Interactive Approach. In <i>Proceedings of the Twenty-Seventh International Joint Conference on Artificial Intelligence</i> , demonstrations track. Pages 5829–5831. 2018. http://sudoku.unl.edu .	
Awards	D&F Eastman Scholarship	2016–2017
	College of Arts & Sciences, Dean’s List	2014–2017
	UCARE Undergraduate Research Grant	2017
	Susan T. Buffett Scholarship	2014–2017
	UNL Honors Scholarship	2014–2017
Service	Vice President of the CSE Graduate Student Association	2019-2020
	CSE Graduate Space and Facilities Representative	2018-2019
	Neihardt Council Treasurer: Honors Dormitory Government	2015-2016
	Volunteer Judge for VEX Robotics competitions	2014-2016
Academic Experience	<i>Graduate Research Assistant, UNebraska Lincoln</i> Advisor: Dr. Hongfeng Yu Currently researching the differences between adversarial and contrastive examples when used to explain the behavior of deep learning classifiers. Further interested in the actionability of such contrastive examples, i.e. an example corresponds to realistic and feasible changes actors could take to reach an intended situation.	Summer 2018 - Present
	<i>Graduate Research Assistant, UNebraska Lincoln</i> Advisors: Dr. Hongfeng Yu, Dr. Berthe Choueiry Researched the behavior of backtrack search when used to solve Constraint Satisfaction problems. Designed methods to automatically detect changes in behavior and	Summer 2018 - Present

visualizations to summarize these behaviors to users. Further, generated heatmaps of variable instantiation (usage) to elucidate further bottlenecks in the search procedure.

Graduate Teaching Assistant, UNebraska Lincoln

Spring 2018

Course: CSCE 230 Computer Organization

Supervisor: Dr. Lisong Xu

Taught weekly recitation, reviewing digital logic concepts and basic processor details. Led an undergraduate laboratory and aided students in programming with assembly and building their own processors on FPGA boards.

Undergraduate Research Assistant, UNebraska Lincoln

Spring 2017 - Fall 2017

Advisor: Dr. Berthe Choueiry

Designed and implemented an online Sudoku solver that illustrates the operations of ten consistency algorithms. Designed a new consistency property whose enforcement solves all known 9×9 puzzles. Tool regularly used in teaching and outreach.

Undergraduate Teaching Assistant, UNebraska Lincoln

Fall 2016

Course: MATH 107 Calculus II

Supervisor: Dr. Brian Harbourne

Led weekly recitation, reviewed weekly material, and proctored and graded exams. Aided additional students in lower level courses through the Math Resource Center.

Work Experience *Software Engineering Intern, NASA, Remote*

Summer 2021

Implemented interfaces between deep learning models and real-world simulation software that tests the durability of aircraft under stress. Developed data science tools to aid researchers designing new shape-memory alloys that exhibit target properties.

Software Engineering Intern, Google, Remote

Summer 2020

Designed and implemented the configuration and benchmark sections of a deep learning pipeline. Created an API to enable the analysis of multiple models and a web application that compares state-of-the-art models.

Software Engineering Intern, Hudl, Lincoln, NE

Summer 2017

Designed and implemented front-end tools for querying video and motion-tracking data. Introduced state-caching to reduce the impact of expensive queries.

Senior Design, Legal Aid of Nebraska, Lincoln, NE

2016 - 2017

Led a squad of five in a year-long course. Designed and developed analytics tools to analyze legal performance. Performed code reviews and managed product integrity.

Mobile Development Internship, BuilderTrend, Omaha, NE

Summer 2016

Incorporated static analysis into the mobile application build pipeline. Designed and implemented a Gantt chart generator for Android and iOS.

Design Studio, UN College of Law, Lincoln, NE

2015 - 2016

Aided in the design and implementation of an application suite for skill tracking. Responsible for server and iOS design and implementation.

Software Engineering Internship, Priority Data, Omaha, NE

Summer 2015

Integrated AJAX methods into a classic ASP web application.

References

Dr. Hongfeng Yu

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Dr. Berthe Choueiry

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