

ANNALISA B. SZYMANSKI

EDUCATION

University of Notre Dame

Doctoral Student, Computer Science and Engineering

Field: Human-Computer Interaction

Notre Dame, IN

Aug 2021 – Present

Saint Joseph's University

Master of Science, Business Intelligence and Analytics

Bachelor of Science in Business Administration, Business Intelligence, Honors Program

Philadelphia, PA

Jan 2018 – Oct 2019

Aug 2012 – May 2016

RESEARCH EXPERIENCE

University of Notre Dame

Graduate Research Assistant, Human-Computer Interaction

Notre Dame, IN

Aug 2021 – Present

- Lead research efforts on incorporating domain expert knowledge into Large Language Model evaluation workflows and analyzing the alignment between domain experts and LLM evaluations in expert knowledge tasks.
- Conduct research focusing on the application of Large Language Models in nutrition and dietary advice, mental health, and education, integrating expertise to align with professional standards.
- Lead the design, development, and implementation of the Food Information Network (FINs) recommendation engine and app designed to optimize grocery lists in alignment with user goals to promote healthier food choices.
- Perform comprehensive usability studies on the FINs app to evaluate user experience and interface effectiveness. Implement iterative design enhancements based on feedback and data-driven insights. Strategize and orchestrate the deployment of the FINs app to introduce to the community.
- Research and develop technology-driven solutions for promoting healthy eating habits, including the creation of an interactive nutrition label and an in-depth analysis of the alignment between dietary guidelines and daily SNAP (Supplemental Nutrition Assistance Program) allotments.

TEACHING EXPERIENCE

University of Notre Dame

Instructor

Notre Dame, IN

Jan 2025 – Present

- Teach and facilitate undergraduate-level Human-Computer Interaction (HCI) course, covering key topics such as user-centered design, usability testing, and interaction design principles.
- Develop and deliver lectures, workshops, and hands-on activities to enhance student learning and engagement.
- Design course materials, including assignments, exams, and projects to ensure alignment with course objectives.

Teaching Assistant

Aug 2021 – Dec 2021

- Supported undergraduate level course in Human-Computer Interaction through student mentorship.
- Assisted in grading course assignments and student performance and provided timely feedback to students on semester-long projects, individual assignments, and quizzes.

PUBLICATIONS

- **Szymanski, A.**, Ziems, N., Eicher-Miller, H. A., Li, T. J. J., Jiang, M., & Metoyer, R. A. (2024). Limitations of the LLM-as-a-Judge Approach for Evaluating LLM Outputs in Expert Knowledge Tasks. Accepted for publication in the ACM Conference on Intelligent User Interfaces. <https://arxiv.org/abs/2410.20266>
- **Szymanski, A.**, Gebreegziabher, S.A., Anuyah, O., Metoyer, R., Li, T. (2024). Comparing Criteria Development Across Domain Experts, Lay Users, and Models in Large Language Model Evaluation. Submitted to the CHI Conference on Human Factors in Computing Systems. 2025. <https://arxiv.org/abs/2410.02054>

- **Szymanski, A.**, Wimer, B., Anuyah, O., Eicher-Miller, H., Metoyer, R. (2024). Integrating Expertise in LLMs: Crafting a Customized Nutrition Assistant with Refined Template Instructions. Proceedings of the 2024 CHI Conference on Human Factors in Computing Systems. 2024. <https://doi.org/10.1145/3613904.3641924>
- Wimer, B., **Szymanski, A.**, Metoyer, R (2024). Beyond Static Labels: Unpacking Nutrition Comprehension in the Digital Age. Proceedings of the 2024 CHI Conference on Human Factors in Computing Systems. 2024. <https://doi.org/10.1145/3613904.3642672>
- Germino, J.†, **Szymanski, A.**†, Eicher-Miller, H., Metoyer, R., & Chawla, N. V. (2023). A community focused approach toward making healthy and affordable daily diet recommendations. *Frontiers in Big Data*, 6. <https://doi.org/10.3389/fdata.2023.1086212>

PRESENTATIONS

- **Szymanski, A.**, Wimer, B., Anuyah, O., Eicher-Miller, H., Metoyer, R. (2024). Integrating Expertise in LLMs: Crafting a Customized Nutrition Assistant with Refined Template Instructions. Presentation at the 2024 CHI Conference on Human Factors in Computing Systems. 2024. <https://www.youtube.com/watch?v=RDYQWyrwfxU>
- **Szymanski, A.**, Metoyer, R. Food Information Networks (FINs): Building data-driven supports for increasing access and healthy food choices in low-income neighborhoods. Poster Presented at: Smart & Connected Communities (S&CC) PI meeting. March 2024; Nashville, TN.
- **Szymanski A.**, Eicher-Miller, H., Metoyer, R. Leveraging Large Language Models for Comprehensive Evaluation in Dietary and Nutritional Food Product Assessments. Poster presented at: Lucy Family Institute for Data & Society Symposium; September 2023; South Bend, IN.
- **Szymanski A.**, Metoyer, R. Promoting Self-Reflection and User Agency in Food Substitution Models: Addressing Social and Economic Needs of Food Insecure Communities through Human-Computer Interaction Design. Presented at the CHI Workshop on Integrating Individual and Social Contexts into Self-Reflection Technologies 2023.
- **Szymanski A.**, Metoyer, R. Designing User-Centered Recommendation Systems for Nutritional and Affordable Food Choices. Poster presented at: CRA-WP Grad Cohort Workshop for Women 2023.
- **Szymanski A.**, Germino J. Exploring the Food Information Network to Assist in Making Healthy and Affordable Purchase Decisions. Poster presented at: Lucy Family Institute for Data & Society Symposium; October 2022; South Bend, IN.
- **Szymanski A.** Designing Inclusive Technologies for the Presentation of Nutritional Information and Affordable Food Choices. Poster presented at: 2022 CRA-WP; April 2022; New Orleans, LA.
- **Szymanski A.**, Wimer B., Metoyer R. Food Information Networks (FINs): The Visual Representation of Food Information for Healthy Dietary Choices. Poster presented at: Lucy Family Institute for Data & Society Symposium; October 2021; South Bend, IN.

HONORS & AWARDS

- PHISIM Scholarship Award Recipient Mar 2015
- Alpha Iota Delta Decisions Sciences and Information Systems Honors Society Feb 2015 – Present
- Omega Rho, Operations Research Honors Society Feb 2015 – Present
- Alpha Sigma Nu, Jesuit Honors Society Dec 2014 – Present

PROFESSIONAL AFFILIATIONS

- SIGCHI (ACM Special Interest Group on Computer-Human Interaction) Aug 2021 – Present
- Alpha Iota Delta Decisions Sciences and Information Systems Honors Society Feb 2015 – Present
- Omega Rho, Operations Research Honors Society Feb 2015 – Present
- Alpha Sigma Nu, Jesuit Honors Society Feb 2015 – Present

PROFESSIONAL EXPERIENCE

The Vanguard Group (Jul 2016 – Jul 2021)

Client Experience Lab Analyst

Wayne, PA
Jan 2020 – Jul 2021

- Participated in website design by analyzing and translating big data into actionable insights.
- Investigated client behavior through channel usage for diagnosis of website problems and innovative approach recommendations.
- Developed queries and performed analysis using SQL, Python, and Tableau for action recommendations.
- Measured the impact of experimental designs through the development of key performance indicators (KPIs).
- Leveraged data science python libraries to perform regression modeling, natural language processing, and A/B testing.

Reporting Analyst II

Nov 2018 – Dec 2019

- Collaborated with an agile project team to analyze data and provide recommendations for the implementation of the Appian workforce management system.
- Developed KPIs for the business by hosting requirement sessions with stakeholders, manipulating data, creating complex SQL queries, and visualizing results.
- Provided recommendations and guidance through analytical reports and calculations that aided in making data driven business decisions.
- Automated reports using SQL, Python, and Tableau visualization to generate savings and reduce FTE hours.
- Calculated the value realization of reports and analysis.

Reporting Analyst

Jul 2017 – Nov 2018

- Developed the first Operational Dashboard for Foundational & Specialty Operations by hosting KPI requirement sessions and implementing calculations into a visually compelling tableau dashboard.
- Rolled out dashboard reports by creating webinars, data-insightful emails, one-pagers, and hosting presentations.
- Supported business operations by analyzing and interpreting big data into interactive Tableau dashboards
- Collaborated with Data Architects on the development of data systems and processes in AWS (Amazon Web Services) to meet business requirements.

Client Service Operations (CSO) - Operations Associate

Jul 2016 – Jul 2017

- Critically interpreted and processed client requests by utilizing departmental policies and resources
- Worked with the metrics team to analyze and decrease client hotline waiting time.
- Executed the initiative to analyze employee surveys to implement an improved employee recognition platform.

LEADERSHIP EXPERIENCE

Computer Science Graduate Student Board

Student Representative

Notre Dame, IN

Jul 2023 – Aug 2024

- Collected and represented graduate student feedback to implement new events.
- Planned and coordinated events for graduate admitted students, including providing tours, delivering presentations, and arranging daily itineraries.
- Served on a panel with engineering students to plan inter-departmental events to foster relationships and community within the engineering departments.

Lucy Institute for Data & Society

Lucy Scholar

Notre Dame, IN

Jul 2022 – Jul 2024

- Collaborated with fellow Lucy Scholars in creating events, opportunities, and resources centered around interdisciplinary data science initiatives aimed at yielding societal benefits.
- Led the planning of graduate interdisciplinary collaboration hours to discuss projects with common data science research methodologies.