CURRICULUM VITAE

LILY POPOVA ZHUHADAR

Director, Center for Applied Data Analytics | **Co-Director**, B.S. Data Science Program | **Professor** of Analytics & Information Systems

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Citation metrics (Google Scholar [link], February 12, 2026): 7,870 citations | **i10-index:** 30 | Listed among WKU's Top-10 on the WKU Google Scholar organization page [link].

CURRENT ACADEMIC EMPLOYMENT

Co-Director of WKU BS Data Science Program *Western Kentucky University, Bowling Green, KY*	**2025 – Present**
Professor of Analytics & Information Systems *Western Kentucky University, Bowling Green, KY*	**2023 – Present**
Director of WKU Center for Applied Data Analytics *Western Kentucky University, Bowling Green, KY*	**2022 – Present**
Co-Coordinator, Undergraduate BDAN Program *Western Kentucky University, Bowling Green, KY*	**2019 – Present**

EDUCATION

Doctor of Philosophy, Computer Engineering & Computer Science　　　**2009**
University of Louisville, KY
- Dissertation: "Automated Discovery, Categorization and Retrieval of Personalized Semantically Enriched E-learning Resources"
- Advisor: Dr. Olfa Nasraoui
- Ph.D. Comprehensive Exam Areas: Pattern Recognition and Web Mining & Knowledge Discovery in Cloud-based Massive Open Online Courses
- Scholarship: Recipient of a doctoral fellowship providing partial tuition assistance from the University of Louisville

Master of Sciences, Computer Science　　　**2004**
Western Kentucky University, Bowling Green, KY
- Thesis: "Developing Pascal Compiler Using Java"
- Advisor: Dr. Bob Crawford
- Scholarship: Recipient of a full fellowship as a Graduate Research Assistant at Western Kentucky University

PROFESSIONAL CERTIFICATIONS

Stanford Medical Statistics Certificate, Stanford School of Medicine, San Jose, CA	**August 2020**
MIT Certificate in Data Science and Big Data Analytics, Massachusetts Institute of Technology, Cambridge, MA	**December 2017**

HONORS & RECOGNITIONS

College Faculty Award for Research & Creativity	**2025 – 2026**
Western Kentucky University, Bowling Green, KY	
College Faculty Award for Research & Creativity	**2023 – 2024**
Western Kentucky University, Bowling Green, KY	
College Faculty Award for Service	**2023 – 2024**
Western Kentucky University, Bowling Green, KY	
College Faculty Award for Research & Creativity	**2022 – 2023**
Western Kentucky University, Bowling Green, KY	
College Faculty Award for Teaching	**2021 – 2022**
Western Kentucky University, Bowling Green, KY	
College Faculty Award for MBA Innovative Pedagogy	**2021 – 2022**
Western Kentucky University, Bowling Green, KY	
College Faculty Award for Student Advisement	**2020 – 2021**
Western Kentucky University, Bowling Green, KY	
College PRIDA Award for Student Advisement	**2020 – 2021**
Western Kentucky University, Bowling Green, KY	
College Faculty Award for Research & Creativity	**2017– 2018**
Western Kentucky University, Bowling Green, KY	
College PRIDA Award for Student Advisement	**2017– 2018**
Western Kentucky University, Bowling Green, KY	
University Award for the Most Prolific Grant Proposer	**2014– 2015**
Western Kentucky University, Bowling Green, KY	
Recognition Letter from WKU President Gary Ransdell	**2012**
For Research on Accessibility for Students with Disabilities	
Western Kentucky University, Bowling Green, KY	

GUEST SPEAKER INVITATIONS/BEST PAPER/ TRAVEL AWARDS

Invited to Attend	**June 18-23, 2023**
National Science Foundation (NSF)	
Aspiring Principal Investigator Summit, Atlanta, Georgia;	
Selected as one of 30 Computer Science faculty nationwide	
for CISE Mid-Career Researcher funding proposal development	
Invited Speaker	**April 7-8, 2016**
National Science Foundation (NSF) Foundation Sponsored	
Workshop, Shape of Educational Data Meeting, Fairfax, VA	
Invited Speaker	**August 4, 2012**
Pittsburgh Learn Lab's Annual Learning Science Workshop,	
Toward Enhancing Achievement and Equity in the 21st Century,	
Carnegie Mellon University, Pittsburgh, PA	
Invited Speaker	**January 18, 2012**
National Science Foundation (NSF) Sponsored Workshop,	
Cyber-Learning Research, Washington, DC	
Invited Speaker	**September 14, 2009**
Berkeley University, The Third IEEE International Conference	
on Semantic Computing, CA	

Invited Speaker   **March 23-24, 2009**
Stanford University, The AAAI 2009 Spring Symposium
on Social Semantic Web: Where Web 2.0 meets Web 3.0, CA
Research Travel Award   **October 28-29, 2009**
Stanford University, International Conference
on Software, Services & Semantic Technologies, Sofia, Bulgaria
Best Paper Award   **February 1, 2009**
IEEE International Conference on Mobile, Hybrid,
and On-line Learning, Cancun, Mexico

RESEARCH FUNDINGS

External Grants

External Grant (**Requested: $8,000,000**) — *Status:* <u>Under review</u> (submitted August 12, 2025)
Project: *Empowering Kentucky's Agricultural Workforce through Data Science & AI Innovation (NextCROP-KY Incubator)*
Role: Co-Principal Investigator
Sponsor: National Science Foundation — EPSCoR E-RISE
Focus: Statewide AI-enabled agriculture and workforce incubator; precision agriculture (IoT sensors, drones, AI analytics); energy-efficient operations and data centers; apprenticeships; rural community co-design and outreach; climate-smart practices; shared data platform and cross-sector partnerships.
PI / Co-PIs: PI — Mahendra Sunkara (UofL); Co-PIs — Sundar Atre (UofL), Ted Smith (UofL), Lily Popova Zhuhadar (WKU).

External Grant (Requested: $2,000,000) — *Status:* <u>Under review</u> (submitted June 27, 2025)
Project: *Adaptive Mental Health Interventions for Autistic College Students*
Role: Co-Principal Investigator
Sponsor: National Institutes of Health — Autism Data Science Initiative (ADSI)
Focus: Data-driven adaptive intervention model for autistic college students; privacy-preserving, FAIR data infrastructure; explainable AI; partial SMART design; longitudinal academic & mental-health signals; predictors of treatment response.
PI / Co-PIs: PI — Christina Noel (WKU); Co-PIs — Lily Popova Zhuhadar (WKU), Kim Link (WKU).

External Grant (Awarded: $156,136) — *Status:* <u>Completed</u> (January 2021–December 2023)
Project: *The Impact of AmeriCorps Members in Invasive Species & Wildfire Fuels Mitigation*
Role: Co-Principal Investigator
Sponsor: AmeriCorps (Corporation for National and Community Service)
Focus: Program evaluation of invasive-species management and wildfire-fuels mitigation efforts; outcomes and impact assessment.
PI / Co-PIs: PI — Allie McCreary(WKU); Co-PI — Lily Popova Zhuhadar (WKU).

Grants with External Cost Share/Collaboration

RCAP Grant (Awarded: $14,547) — *Status:* Active (2022–Present)
Project: *Building Research Infrastructure for Detecting Brain Diseases*
Role: Principal Investigator
Sponsor: Western Kentucky University — Research & Creative Activities Program
Focus: Establishing data and computing infrastructure to support research on brain-disease detection using analytics and AI.
PI: PI — Lily Popova Zhuhadar (WKU).

External Cost Share (Awarded: $36,000) — *Status:* Completed (2014–2016)
Project: *Examining the Impact of Course Sequencing as Pathways to Success in STEM at WKU*
Role: Principal Investigator
Sponsor: Western Kentucky University — Research & Creative Activities Program (RCAP); external cost-share
Focus: Institutional analytics of course sequencing and pathways to improve STEM persistence, retention, and student success.
PI / Co-PIs: PI — Lily Popova Zhuhadar (WKU); Co-PIs — Tuesdi Helbig (IR, WKU), Jerry Daday (CITL, WKU), Bruce Keesler (Mathematics, WKU), Olfa Nasraoui (Computer Science & Computer Engineering, University of Louisville).

Internal Grants

Internal Grant (Awarded: $100,000) — *Status:* Active (2025–2027)
Project: *INSIGHT RET Program — Equipping K–12 Teachers to Design AI Curricula*
Role: Principal Investigator
Sponsor: Western Kentucky University — TOP Grant
Focus: Research-based training and sustained mentorship for K–12 teachers to co-design and implement AI/data-science instructional modules.
PI / Co-PIs: PI — Lily Popova Zhuhadar; Co-PIs — Christina Noel, Richard Schugart.

Internal Grant (Awarded: $4,500) — *Status:* Completed (2024–2025)
Project: Impact of Social Media on Mental Health
Role: Principal Investigator
Sponsor: Western Kentucky University — Faculty-Undergraduate Student Engagement (FUSE)
Focus: Behavioral analytics of social media signals and mental-health outcomes; identification of risk factors and development of early-intervention tools.
PI / Co-PIs: PI — Lily Popova Zhuhadar (WKU); Co-PI — Ryan Spychalski (WKU).

Internal Grant (Awarded: $3,500) — *Status:* Completed (2024–2025)
Project: Estimating Body Fat Percentage From Simple Physical Measurements
Role: Principal Investigator
Sponsor: Western Kentucky University — Faculty-Undergraduate Student Engagement (FUSE)
Focus: Non-invasive, cost-effective health monitoring via predictive models using anthropometric measurements.
PI / Co-PIs: PI — Lily Popova Zhuhadar (WKU); Co-PI — Michael Delaney (WKU).

Internal Grant (Awarded: $2,000) — *Status:* <u>Completed</u> (2024–2025)
Project: Predicting College Student Retention Using Academic & Demographic Data
Role: Principal Investigator
Sponsor: Western Kentucky University — Data Science Scholarship
Focus: Predictive modeling of retention using academic and demographic features to inform student-success interventions.
PI / Co-PIs: PI — Lily Popova Zhuhadar (WKU); Co-PI — Jenna Wells (WKU).

Internal Grant (Awarded: $3,500) — *Status:* <u>Completed</u> (2023–2024)
Project: *Early Detection in Stroke Prediction*
Role: Principal Investigator
Sponsor: Western Kentucky University — Faculty-Undergraduate Student Engagement (FUSE)
Focus: Undergraduate-mentored predictive analytics for early stroke-risk detection.
PI / Co-PIs: PI — Lily Popova Zhuhadar (WKU); Co-PI — Lilly Shipley (WKU).

Internal Grant (Awarded: $4,500) — *Status:* <u>Completed</u> (2023–2024)
Project: *Enhancing Healthcare Diagnostics with AutoML*
Role: Principal Investigator
Sponsor: Western Kentucky University — Faculty-Undergraduate Student Engagement (FUSE)
Focus: Diagnosis of diabetes, and Auto Models.
PI / Co-PIs: PI — Lily Popova Zhuhadar (WKU); Co-PI — Jonathan Roberts (WKU).

Internal Grant (Awarded: $3,500) — *Status:* <u>Completed</u> (2023–2024)
Project: *Early Detection in Stroke Prediction*
Role: Principal Investigator
Sponsor: Western Kentucky University — Faculty-Undergraduate Student Engagement (FUSE)
Focus: Undergraduate-mentored predictive analytics for early stroke-risk detection.
PI / Co-PIs: PI — Lily Popova Zhuhadar (WKU); Co-PI — Lilly Shipley (WKU).

Internal Grant (Awarded: $3,500) — *Status:* <u>Completed</u> (2023–2024)
Project: *Developing and Evaluating a Prediction Model for Diabetes Diagnosis*
Role: Principal Investigator
Sponsor: Western Kentucky University — Faculty-Undergraduate Student Engagement (FUSE)
Focus: Classification modeling to support early detection and diagnosis of diabetes.
PI / Co-PIs: PI — Lily Popova Zhuhadar (WKU); Co-PI — Geoffrey Ross (WKU).

Internal Grant (Awarded: $3,500) — (2022–2023)
Project: *Predicting Customer Spending Behavior*
Role: Principal Investigator
Sponsor: Western Kentucky University — Faculty-Undergraduate Student Engagement (FUSE)
Focus: Customer analytics and predictive modeling to forecast spending patterns.
PI / Co-PIs: PI — Lily Popova Zhuhadar (WKU); Co-PI — Abbigail Daly (WKU).

Internal Grant (Awarded: $3,500) — (2022–2023)
Project: *Predictive Model for Home Loan Approval Using Machine Learning*
Role: Principal Investigator
Sponsor: Western Kentucky University — Faculty-Undergraduate Student Engagement (FUSE)
Focus: Credit-risk assessment using machine-learning techniques.
PI / Co-PIs: PI — Lily Popova Zhuhadar (WKU); Co-PI — Sarah Shirley (WKU).

Internal Grant (Awarded: $3,500) — *Status:* <u>Completed</u> (2022–2023)
Project: *How Much Does It Cost to Have a Heart Attack in the U.S.?*
Role: Principal Investigator
Sponsor: Western Kentucky University — Faculty-Undergraduate Student Engagement (FUSE)
Focus: Healthcare cost analytics to model drivers of acute-cardiac episode expenses.
PI / Co-PIs: PI — Lily Popova Zhuhadar (WKU); Co-PI — Aaron Wallace (WKU).

Internal Grant (Awarded: $3,500) — *Status:* <u>Completed</u> (2022–2023)
Project: *Health Inequity and the Role of AI*
Role: Principal Investigator
Sponsor: Western Kentucky University — Faculty-Undergraduate Student Engagement (FUSE)
Focus: Analysis of AI-enabled strategies to mitigate inequity.
PI / Co-PIs: PI — Lily Popova Zhuhadar (WKU); Co-PI — Layla Dalton (WKU).

Internal Grant (Awarded: $3,500) — *Status:* <u>Completed</u> (2022–2023)
Project: *Think Pandemic-Related Fraud Is Going Away? Think Again!*
Role: Principal Investigator
Sponsor: Western Kentucky University — Faculty-Undergraduate Student Engagement (FUSE)
Focus: Detection of pandemic-related fraud patterns using analytics.
PI / Co-PIs: PI — Lily Popova Zhuhadar (WKU); Co-PI — Jonah Hathaway (WKU).

Internal Grant (Awarded: $3,500) — *Status:* <u>Completed</u> (2020–2021)
Project: *Profiling Customers*
Role: Principal Investigator
Sponsor: Western Kentucky University — Faculty-Undergraduate Student Engagement (FUSE)
Focus: Customer segmentation and profiling to inform targeted strategies.
PI / Co-PIs: PI — Lily Popova Zhuhadar (WKU); Co-PI — Morgan Lyons (WKU).

Internal Grant (Awarded: $3,500) — *Status:* <u>Completed</u> (2020–2021)
Project: *Predicting Pregnant Customers Using Analytics*
Role: Principal Investigator
Sponsor: Western Kentucky University — Faculty-Undergraduate Student Engagement (FUSE)
Focus: Predictive modeling of pregnancy-related consumer patterns.
PI / Co-PIs: PI — Lily Popova Zhuhadar (WKU); Co-PI — Abigail McGraw (WKU).

Internal Grant (Awarded: $3,500) — *Status:* Completed (2019–2020)
Project: *Using Machine-Learning Algorithms to Detect Financial Fraud*
Role: Principal Investigator
Sponsor: Western Kentucky University — Faculty-Undergraduate Student Engagement (FUSE)
Focus: Anomaly detection and supervised learning techniques for financial fraud identification.
PI / Co-PIs: PI — Lily Popova Zhuhadar (WKU); Co-PI — Ian Hamilton (WKU).

Internal Grant (Awarded: $10,000) — *Status:* Completed (January 2018–July 2019)
Project: *Are We Ready for the Zika Virus? Applicability of Healthcare Analytical Systems During a Crisis*
Role: Principal Investigator
Sponsor: Western Kentucky University — Gordon Ford College of Business (AIM High Grant)
Focus: Evaluating readiness and applicability of healthcare analytics platforms for crisis response and decision support.
PI / Co-PIs: PI — Lily Popova Zhuhadar; Co-PI — Evelyn Thrasher (WKU).

Internal Grant (Awarded: $3,500) — *Status:* Completed (January 2018–July 2019)
Project: *The True Economic Impact of Terrorism*
Role: Principal Investigator
Sponsor: Western Kentucky University — Faculty-Undergraduate Student Engagement (FUSE)
Focus: Quantifying short/long-run economic effects of terrorism using analytics.
PI / Co-PIs: PI — Lily Popova Zhuhadar (WKU); Co-PI — Kyla Scanlon (WKU).

Internal Grant (Awarded: $10,000) — *Status:* Completed (January 2018–July 2019)
Project: *Reviewing and Prototyping Semantic Cloud-Based Repositories*
Role: Principal Investigator
Sponsor: Western Kentucky University — Gordon Ford College of Business (AIM High Grant)
Focus: Designing and prototyping semantic, cloud-enabled repositories to improve information retrieval and reuse.
PI / Co-PIs: PI — Lily Popova Zhuhadar (WKU); Co-PI — Mark Ciampa (WKU).

Internal Grant (Awarded: $3,500) — *Status:* Completed (January 2017–July 2018)
Project: *Discovering Pathways to Success in Business Majors*
Role: Principal Investigator
Sponsor: Western Kentucky University — Faculty-Undergraduate Student Engagement (FUSE)
Focus: Student-success analytics to identify curricular and behavioral pathways linked to graduation outcomes.
PI / Co-PIs: PI — Lily Popova Zhuhadar (WKU); Co-PI — Kyle Hart (WKU).

Internal Grant (Awarded: $5,000) — *Status:* <u>Completed</u> (January 2017–July 2018)
Project: *Applicability of Healthcare Analytical Systems During a Crisis*
Role: Principal Investigator
Sponsor: Western Kentucky University — Gordon Ford College of Business (AIM High Grant)
Focus: Assessing healthcare analytics system capabilities for real-time situational awareness during public-health crises.
PI / Co-PIs: PI — Lily Popova Zhuhadar (WKU); Co-PI — Evelyn Thrasher (WKU).

Internal Grant (Awarded: $5,000) — *Status:* <u>Completed</u> (January 2016–July 2017)
Project: *Review of Smart Cities Intelligent Operation Systems*
Role: Principal Investigator
Sponsor: Western Kentucky University — Graduate Research Grant
PI / Co-PIs: PI — Lily Popova Zhuhadar (WKU); Co-PI — Ryan Boone (WKU).

Internal Grant (Awarded: $3,500) — *Status:* <u>Completed</u> (January 2015–July 2016)
Project: *Too Big to Fail? Or Too Blind to See? Profit Analysis*
Role: Principal Investigator
Sponsor: Western Kentucky University — Faculty-Undergraduate Student Engagement (FUSE)
PI / Co-PIs: PI — Lily Popova Zhuhadar (WKU); Co-PI — Zach Ross (WKU).

Internal Grant (Awarded: $3,500) — *Status:* <u>Completed</u> (January 2015–July 2016)
Project: *Lend Smarter — Using Predictive Analytics to Better Enhance Consumer Lending*
Role: Principal Investigator
Sponsor: Western Kentucky University — Faculty-Undergraduate Student Engagement (FUSE)
PI / Co-PIs: PI — Lily Popova Zhuhadar (WKU); Co-PI — Corey Travis (WKU).

Internal Grant (Awarded: $3,500) — *Status:* <u>Completed</u> (January 2015–July 2016)
Project: *Who Wants My Product? Affinity-Based Marketing*
Role: Principal Investigator
Sponsor: Western Kentucky University — Faculty-Undergraduate Student Engagement (FUSE)
PI / Co-PIs: PI — Lily Popova Zhuhadar (WKU); Co-PI — Cody Kirk (WKU).

JOURNAL PUBLICATIONS

- Gutta, M. S., **Zhuhadar, L. P.,** Williamson, M. G., Bhatia, B., Labreveux, M. (**2026**). Optimizing Place-Based Data Infrastructure Siting: Balancing Energy, Environment, and Communities. *ACS ES&T Water.*
- **Zhuhadar L. P.,** McCreary A., Lytras M.D., Wells M. (**2023**). The influence of AmeriCorps members on ecosystem management. *Journal of Cleaner Production*, 138309. https://doi.org/10.1016/j.jclepro.2023.138309 [ABDC: A; SJR: Q1].

- **Zhuhadar L. P.,** & Lytras, M. D. (**2023**). The Application of AutoML Techniques in Diabetes Diagnosis: Current Approaches, Performance, and Future. *Sustainability.* [SJR: Q1/Q2 (varies by category)].

- McCreary, A., & **Zhuhadar, L. P.** (**2022**). The Impact of AmeriCorps Members in Invasive Species and Wildfire Fuels Mitigation. *Journal of International Scientific Publications: Ecology & Safety*, 16, 138–145.

- **Zhuhadar L. P.**, & Ciampa, M. (**2021**). Novel findings of hidden relationships in offshore tax-sheltered firms: A semantically enriched decision support system. *Journal of Ambient Intelligence and Humanized Computing*, 12, 4377–4394. https://doi.org/10.1007/s12652-019-01392-1 [SJR: Q1].

- **Zhuhadar L. P.**, Daday, J., Marklin, S., Kessler, B., & Helbig, T. (**2019**). Using survival analysis to discovering pathways to success in mathematics. *Computers in Human Behavior*, 92, 487–495. [ABDC: A; SJR: Q1].

- **Zhuhadar, L. P.**, & Thrasher, E. (**2019**). Data analytics and its advantages for addressing the complexity of healthcare: A simulated Zika case study example. *Applied Sciences*, 9(11), 2208. [SJR: Q2].

- **Zhuhadar L. P.**, & Ciampa, M. (**2018**). Leveraging learning innovations in cognitive computing with massive data sets: Using the offshore Panama Papers leak to discover patterns. *Computers in Human Behavior*, 92, 507–518. [ABDC: A; SJR: Q1].

- **Zhuhadar, L. P.**, Thrasher, E., Marklin, S., & de Pablos, P. O. (**2017**). The next wave of innovation—Review of smart cities intelligent operation systems. *Computers in Human Behavior*, 66, 273–281. [ABDC: A; SJR: Q1].

- **Zhuhadar, L. P.**, Marklin, S., Thrasher, E., & Lytras, M. D. (**2016**). Is there a gender difference in interacting with intelligent tutoring system? *Computers in Human Behavior*, 61, 198–204. [ABDC: A; SJR: Q1].

- **Zhuhadar, L. P.**, Carson, B., Daday, J., Thrasher, E., & Nasraoui, O. (**2016**). Computer-assisted learning based on universal design, multimodal presentation and textual linkage. *Journal of the Knowledge Economy*, 7(2), 373–387. [SJR: Q2].

- **Zhuhadar, L. P.**, Coleman, P. (**2016**). Applicative personalized learning. *International Journal of Knowledge Society Research*, 7(4), 14.

- **Zhuhadar, L. P.** (**2015**). A synergistic strategy for combining thesaurus-based and corpus-based approaches… *Computers in Human Behavior*, 51, 1107–1115. [ABDC: A; SJR: Q1].

- **Zhuhadar, L. P.**, Kruk, S. R., & Daday, J. (**2015**). Semantically enriched MOOCs platform. *Computers in Human Behavior*, 51, 578–593. [ABDC: A; SJR: Q1].

- **Zhuhadar, L. P.**, Lytras, M., Zhang, J. X., & Kurilovas, E. (2014). Advances of scientific research on technology-enhanced learning… *Journal of Universal Computer Science*, 20(10), 1402. [SJR: Q2].

- **Zhuhadar, L. P.**, Yang, R., & Lytras, M. D. (**2013**). The impact of Social Multimedia Systems on cyberlearners. *Computers in Human Behavior*, 29(2), 378–385. [ABDC: A; SJR: Q1].

- Yang, R., **Zhuhadar, L. P.**, & Nasraoui, O. (**2012**). Structural decompositions of complex networks. In *Computational Social Networks*, 143–160.

- **Zhuhadar, L. P.**, Nasraoui, O., Wyatt, R., & Yang, R. (**2011**). Visual knowledge representation of conceptual semantic networks. *Social Network Analysis and Mining*, 1(3), 219–229. [SJR: Q1/Q2 (varies by category)].

- **Zhuhadar, L. P.**, & Nasraoui, O. (**2010**). A hybrid recommender system guided by semantic user profiles, *Journal of Emerging Technologies in Web Intelligence*, 2(4), 272–281.

- **Zhuhadar, L. P.**, Nasraoui, O., Wyatt, R., & Romero, E. (**2009**). Metadata as seeds for building an ontology-driven information retrieval system. *International Journal of Hybrid Intelligent Systems*, 6(3), 169–186.

BOOK CHAPTERS PUBLICATIONS

- **Zhuhadar, L. P.,** Ciampa M. Government Surveillance, National Security, and the American Rights: Using Sentiment Analysis to Extract Citizen Opinions. Politics and Technology in the Post-Truth Era. Emerald Publishing Limited; 2019:129-141. https://doi.org/10.1108/978-1-78756-983-620191009

- **Zhuhadar, L. P.,** Nasraoui, O., & Wyatt, R. (2008). Knowledge Mining for Adaptive Multimedia Web-Based Educational Platform, Technology Enhanced Learning: Best Practices, 205-256

CONFERENCE PROCEEDINGS PUBLICATIONS

- **Zhuhadar, L. P.,** Healthcare Analytical System to Predict Necessary Resources in Case of Crises (2018). Proceedings of The 2018 Annual Americas' Conference on Information Systems (AMCIS).15. https://aisel.aisnet.org/amcis2018/TREOsPDS/Presentations/15

- **Zhuhadar, L. P.,** Discovering Pathways to success in STEM Disciplines. The 2015 INFORMS Workshop on Data Mining and Analytics, Philadelphia, PA, USA.

- **Zhuhadar, L. P.,** Carson, B. M., Daday, J., Nasraoui, O. (2015). A Universal Design Infrastructure for Multimodal Presentation of Materials in STEM Programs. The 24th International Conference on World Wide Web. ACM Press. http://dx.doi.org/10.1145/2740908.2744712

- **Zhuhadar, L. P.,** Butterfield, T. J. (2014). Analyzing Students Logs in Open Online Courses Using SNA Techniques. 20th Americas Conference on Information Systems, AMCIS 2014, Savannah, Georgia, USA, August 7-9, 2014. http://aisel.aisnet.org/amcis2014/

- **Zhuhadar, L. P.,** Carson, B. M., Daday, G. K. Moving from Entrenched Structure to a Universal Design. ASSETS '14 Proceedings of the 16th International ACM SIGACCESS Conference on Computers & Accessibility (vol. 16, pp. 265-266). New York, NY: ASSETS '14 Proceedings of the 16th International ACM SIGACCESS Conference on Computers & Accessibility. https://doi.org/10.1145/2661334.2661409

- Nutakki, G. C., **Zhuhadar, L.,** and Wyatt, R. 2012. "Appearance Based Disease Recognition of Human Brains," BIOINFORMATICS, pp. 351-355.

- **Zhuhadar, L.,** Yang, R., and Nasraoui, O. 2012. "Toward the Design of Recommender System: Visual Clustering and Detecting Community Structure in a Web Usage Network," Proceedings of the 2012 IEEE/WIC/ACM International Joint Conferences on Web Intelligence and Intelligent Agent Technology-Volume 01: IEEE Computer Society, pp. 354-361.

- **Zhuhadar, L. P.**, and Yang, R. 2012. "Cyberlearning and Learning Resources," LAK '12: ACM Proceedings of the 2nd International Conference on Learning Analytics and Knowledge, April 29-May 2, 2012, Vancouver, CA.

- **Zhuhadar, L. P.**, and Nutakki, G. C. 2012. "Hybrid Appearance Based Disease Recognition of Human Brains," 16th International Conference on Information Visualization (IV), 2012, pp. 588-598.

- Yang, R., **Zhuhadar, L. P.**, and Nasraoui, O. 2011. "Bow-Tie Decomposition in Directed Graphs," Information Fusion (FUSION), 2011 Proceedings of the 14th International Conference on: IEEE, pp. 1-5.

- Yang, R., and **Zhuhadar, L. P.**, 2011. "Extensions of Closeness Centrality?," Proceedings of the 49th Annual Southeast Regional Conference: ACM, pp. 304-305.

- **Zhuhadar, L. P.**, Nasraoui, O., and Wyatt, R. 2010. "Semantically Enriched Recommender Engine: A Novel Collaborative Filtering Approach Using User-to-User Fast Xor Bit Operation," Proceedings of the 2010 IEEE Fourth International Conference on Semantic Computing: IEEE Computer Society, pp. 349-352.

- **Zhuhadar, L. P.**, and Nasraoui, O. 2010e. "Personalized Search Based on a User Centered Recommender Engine," IEEE/WIC/ACM International Conference on Web Intelligence and Intelligent Agent Technology (WI-IAT), pp. 200 -203.

- **Zhuhadar, L. P.**, and Kruk, S. R. 2010. "Intelligent Social Semantic Collaborative Filtering Tools in an E-Learning Contexts," IC-AI, CSREA Press, pp. 996-1002.

- **Zhuhadar, L. P.**, and Nasraoui, O. 2010d. "Performance and Scalability Testing Methodology for a Semantic Personalized Search Engine," IKE, pp. 459-465.

- **Zhuhadar, L. P.**, and Nasraoui, O. 2010c. "Evaluating Usability and Precision of Visual Search Engine," Proceedings of the 2010 Spring Simulation Multiconference, New York, NY, USA: ACM, pp. 239:231-239:234.

- **Zhuhadar, L. P.**, and Nasraoui, O. 2010b. "Evaluating a Cross-Language Semantically Enriched Search Engine," Seventh International Conference on Information Technology: New Generations (ITNG). IEEE, pp. 1074-1079.

- **Zhuhadar, L. P.**, and Nasraoui, O. 2010a. Augmented Ontology-Based Information Retrieval System with External Open-Source Resources," Seventh International Conference on Information Technology: New Generations (ITNG). IEEE, pp. 144-149.

- Nasraoui, O., and **Zhuhadar, L. P.**, 2010. "Improving Recall and Precision of a Personalized Semantic Search Engine for E-Learning," Fourth International Conference on Digital Society, 2010. ICDS'10. IEEE, pp. 216-221.

- **Zhuhadar, L. P.**, Nasraoui, O., Wyatt, R., and Romero, E. 2010b. "Multi-Language Ontology-Based Search Engine," ACHI'10 International Conference on Advances in Computer-Human Interactions, IEEE, pp. 13-18.

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- **Zhuhadar, L. P.**, and Nasraoui, O. 2008a. "Personalized Cluster-Based Semantically Enriched Web Search for E-Learning," Proceedings of the 2nd international workshop on Ontologies and information systems for the semantic web: ACM, pp. 105-112.

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- **Zhuhadar, L. P.**, Nasraoui, O., and Wyatt, R. 2008b. "Metadata Domain-Knowledge Driven Search Engine In "Hypermanymedia" E-Learning Resources," CSTST '08: Proceedings of the 5th international conference on Soft computing as transdisciplinary science and technology, New York, NY, USA: ACM, pp. 363-370.

- **Zhuhadar, L. P.**, Nasraoui, O., and Wyatt, R. 2008a. "A Comparison Study between Generic and Metadata Search Engines in an E-Learning Environment," Proceedings of the 2008 International Conference on Information and Knowledge Engineering, Las Vegas, Nevada, USA, pp. 500 - 505.

- Rojas, C., Nasraoui, O., **Zhuhadar, L. P.**, 2008. "Knowledge Discovery in Data with Selected Java Open-Source Software," Knowledge Discovery and Web mining 1st Conference, Louisville, KY, USA, p. 51.

PRESENTATIONS AT NATIONAL/INTERNATIONAL CONFERENCES

Presentations with Students

- "Predicting College Student Retention Using Academic and Demographic Data." INFORMS Analytics Conference, Indianapolis, IN, April 6–9, 2025. Co-presented with **Jenna Wells** (student).

- "Impact of Social Media on Mental Health: Identifying Risk Factors and Early-Intervention Tools." INFORMS Analytics Conference, Indianapolis, IN, April 6–9, 2025. Co-presented with **Ryan Spychalski** (student).

- "Estimating Body Fat Percentage From Simple Physical Measurements." INFORMS Analytics Conference, Indianapolis, IN, April 6–9, 2025. Co-presented with **Michael Delaney** (student).

- "Drivers of Airline Passenger Satisfaction and Loyalty: Insights From 100,000 Survey Responses." INFORMS Analytics Conference, Indianapolis, IN, April 6–9, 2025. Co-presented with **Cole Kidd** (student).

- "Detecting Hazardous Near-Earth Objects Using NASA Data and Random Forests." INFORMS Analytics Conference, Indianapolis, IN, April 6–9, 2025. Co-presented with **John Costa** (student).

- "Assessing Risk Factors and Early Detection in Stroke Prediction." INFORMS Analytics Conference, Orlando, FL, April 14–15, 2024. Co-presented with **Lilly Shipley** (student).

- "Developing and Evaluating a Prediction Model for Diabetes Diagnosis." INFORMS Analytics Conference, Orlando, FL, April 14–15, 2024. Co-presented with **Geoffrey Ross** (student).

- "Enhancing Healthcare Diagnosis with AutoML." INFORMS Analytics Conference, Orlando, FL, April 14–15, 2024. Co-presented with **Jonathan Roberts** (student).

- "AmeriCorps' Influence on Ecosystem Management." INFORMS Business Analytics Conference, Aurora, CO, April 16–18, 2023. Co-presented with **Maria Wells** (student).

- "Examining Pandemic-Related Fraud & Auditing." INFORMS Business Analytics Conference, Aurora, CO, April 16–18, 2023. Co-presented with **Jonah Hathaway** (student).

- "Addressing Health Inequity and the Role of AI." INFORMS Business Analytics Conference, Aurora, CO, April 16–18, 2023. Co-presented with **Layla Dalton** (student).

Presentations

- "The Impact of AmeriCorps Members in Invasive Species and Wildfire Fuels Mitigation." 31st International Scientific Conference, Burgas, Bulgaria, August 22, 2022.

- "Decision Support Systems to Discover Hidden Relationships in Offshore Tax-Sheltered Firms." 26th Annual Conference of the International Association for Applied Management, London, UK, July 13, 2019.

- "Healthcare Analytical System to Predict Necessary Resources in Case of Crises." Americas Conference on Information Systems (AMCIS), New Orleans, LA, August 16–18, 2018.

- "Are We Ready for Zika? Applicability of Healthcare Analytical Systems During Crisis." Predictive Analytics World for Healthcare, New York, NY, October 29, 2017.

- "Optimizing Urgent Care Resource Scheduling Through Discrete-Event Simulations." INFORMS Annual Meeting, Nashville, TN, November 13, 2016.

- "Exploring the Intersection of Topological Data Analysis and Educational Data." NSF Educational Data Workshop, Fairfax, VA, April 7–8, 2016.

- "Discovering Pathways to Success in STEM Disciplines." INFORMS Workshop on Data Mining and Analytics, Philadelphia, PA, November 7, 2015.

- "A Universal Design Infrastructure for Multimodal Presentation of Materials in STEM Programs." 24th International World Wide Web Conference (WWW 2015), Florence, Italy, 2015.

- "Analyzing Students' Logs in Open Online Courses Using SNA Techniques." 16th International ACM SIGACCESS Conference on Computers and Accessibility (ASSETS 2014), New York, NY, October 20–22, 2014.

- "Moving from Entrenched Structure to a Universal Design." Americas Conference on Information Systems (AMCIS), Georgia, USA, August 7–9, 2014.
- "Toward Enhancing Achievement and Equity in the 21st Century." Pittsburgh Learn Lab Annual Learning Science Workshop, Carnegie Mellon University, Pittsburgh, PA, June 16–20, 2014.

COURSES DEVELOPED/TAUGHT AT WKU

•	Introduction to Analytics (BDAN 250)	**2022 – Present**
•	Contemporary Analytics (BA 513)	**2019 – Present**
•	Data Visualization (BDAN 430)	**2018 – 2021**
•	Predictive Modeling (formerly Data Mining) (BDAN 420)	**2014 – Present**
•	Business Data Analytics (BDAN 310)	**2014 – 2019**
•	Knowledge Management (CIT 486)	**2013 – 2014**
•	Technology Support Admin (CIT 496)	**2010 – 2013**
•	Ruby on Rails Programming Languages (CS 245)	**2010 – 2013**
•	Perl Programming Languages (CS 245)	**2010 – 2013**

DEPARTMENT SERVICE

- **Director, Center for Applied Data Analytics (CADA), WKU — *August 2022–Present***
  - Provide strategic leadership for GFCB's Center; secured >$250,000 in grants and awards, allocating 33% to direct student support.
  - Led Internal Grant (Awarded: $100,000) — *Status:* Active (2025–2027)
    - **Project:** *INSIGHT RET Program — Equipping K–12 Teachers to Design AI Curricula*
      Focus: Research-based training and sustained mentorship for K–12 teachers to co-design and implement AI/data-science instructional modules.
      PI / Co-PIs: PI — Lily Popova Zhuhadar; Co-PIs — Christina Noel, Richard Schugart.
  - Authored the 2022–2025 Assessment Plans for CADA.
  - Organized the Fall 2023 Data Analytics Awareness Webinar Series and coordinated the Summer 2023 Virtual Research Enrichment Series; published recordings and handouts on the CADA website.
  - Co-led a cross-college C-QTAG grant proposal (Economics + AIS); supported eight student FUSE proposals (total awards $29,000 in 2023).
  - Authored an RCAP grant: *Brain Imaging Network Data Repository*.
  - Moderated sessions, including: SAS Data Science Partner (with Lori Downen & Tom Grant), Longitudinal Data Analysis (with Jackie Johnson), Data Cleaning (with Nancy Rausch), Sentiment Analysis (with Tom Grant), Designing Effective Online Surveys (with Nancy Rausch), Multilevel Mixed Models (with Jackie Johnson), Exploratory Data Analysis (with Tom Grant), and Structural Equation Modeling (with Cat Truxillo).

- **Member, BDAN 250 Core Course Curriculum Committee** — *July 2021–June 2022*
- **Chair, Search Committee** — **Instructor of Information Systems** — *March 2020–December 2020*

COLLEGE SERVICE

Member, Research Committee — Gordon Ford College of Business — *August 2024 – Present*
- Organized the 2024 GFCB Research Excellence Showcase — *November 2024*
- Organized the 2024 Grant Funding Success Roadmap Event — *April 2024*

Chair, Research Committee — Gordon Ford College of Business — *August 2020– 2024*
- Drafted bylaws establishing collaborative **Quick Turn-Around Grants (CQTAG)**.
- Organized the inaugural **QTAG Panel Discussion**.

Member, Associate Provost for Research Search Committee — *August 2016– December 2016*
- Contributed to the successful appointment of **Dr. Cheryl Davis**.

Member, Provost's Ad-Hoc Research Council Working Committee — *July 2015– June 2016*
- Collaborated on an incentive policy framework for **WKU researchers**.

UNIVERSITY SERVICE

- **Member, WKU Student Scholar Showcase Advisory Council** — *July 2022– Present*
- **Chair, Marketing Subcommittee, Student Scholar Showcase Advisory Council** — *July 2022–Present*
- **Member, Research & Creative Activity Council** — *July 2019–June 2024*
- **Member, Search Committee — Kentucky State Climatologist & Director, Kentucky Climate Center** — *2022*
- **Member, University Graduate Council** — *July 2020–June 2023*
  Member, Graduate Council Research Subcommittee — *July 2020–June 2023*
- **Member, University FUSE Committee** — *2016–Present*
  Member, University RCAP Committee — *2015–Present*
- **Member, University Graduate Council** — *July 2015–June 2018*
  Member, Graduate Council Research Subcommittee — *July 2015–June 2018*
- **Member, WKU Student Research Council** — *August 2014–June 2018*
- **Chair, Boyd-Lubker Visiting Scholars Committee** — *July 2014–June 2016*

COMMUNITY SERVICE

PPE Manufacturing & Donation (COVID-19 Response) — *2021*
- Coordinated with the University of Louisville's "3D-Printed Face Shields for Healthcare Professionals" initiative and advised WKU's VP for Research & Creative Activity (Dr. Cheryl Davis).
- Personally fabricated and donated **1,000** 3D-printed **PPE face shields** to Bowling Green healthcare workers; self-funded materials (~**$1,200**).

HUD Envision Center Collaboration — *2019* (WKU, Bowling Green, KY)
- Partnered with **Dr. Pamela Petty** and **Dr. Daniel Super** on a STEM outreach project with the **HUD Envision Center**.
- Participated in a November 10, 2019 coordination meeting with **Abraham Williams** and senior HUD leaders to scope WKU–HABG collaboration and funding opportunities (ahead of **Secretary Ben Carson's** Nov. 15 visit).
- Volunteered design/production of posters and visual assets for program visibility.

Advocate for Computer Science Education in Kentucky — *2014–Present*
- Promote **Hour of Code** and K–12 computer science literacy across WKU and regional communities through talks, demos, and resource sharing.
- Led **CS Education Week (2017)** activities: distributed classroom tutorials/lesson plans and supported teachers in launching beginner-friendly coding sessions.

SERVICE TO PROFESSION

- **Grant Reviewer**, Kentucky Science & Engineering Foundation (KSEF) — *2017–Present*
- **Associate Editor**, *International Journal of Business Intelligence* — *2017–2020*
- **Associate Editor**, *International Journal on Semantic Web* — *2017–2020*
- **Associate Editor**, *International Journal of Knowledge Society Research* — *2017–2020*
- **Reviewer**, *Computers in Human Behavior* (Elsevier) — *2010–Present*
- **Reviewer**, *Telematics and Informatics* (Elsevier) — *2010–Present*

PROFESSIONAL MEMBERSHIPS
- **Association for Computing Machinery (ACM)** — Member, 2003–Present
- **American Society for Engineering Education (ASEE)** — Member, 2003–Present
- **Association for the Advancement of Artificial Intelligence** — Member, 2008–Present
- **IEEE Systems, Man, and Cybernetics Society (IEEE SMC)** — Member, 2009–Present
- **Web Intelligence Consortium (WIC)** — Member, 2009–Present
- **Association for Information Systems (AIS)** — Member, 2013–Present
- **AACSB International** — Affiliated faculty, 2015–Present

INITIATIVES at WKU

WKU Innovation & Research Forum (IRForum) — *August 2019–Present*
- Founded the IRForum; secured endorsement from the Associate Provost for Research (Dr. Cheryl Davis).
- Bridged the Office of Research and GFCB, fostering interdisciplinary and cross-college collaboration.
- Convened researchers, practitioners, and faculty for workshops and dialogues on emerging methods and applications.
- Published recordings and materials to a dedicated site for campus-wide access and continuity.

Joint Research Agreement — WKU & University of Louisville — *August 2010–July 2013 (link)*
- Established a formal collaboration between WKU's Office of Distance Learning and UofL's Web Mining Lab.
- Secured endorsement from Dr. Steven Haggbloom (Interim Director, Sponsored Programs).
- Documented scope, governance, and deliverables to guide multi-institutional research.

Synchronized Transcript System (Semi-Automatic Captioning) — *August 2010–July 2013*
- Designed accessibility software to generate synchronized captions for multimedia-rich online courses, improving access for learners with hearing impairments.
- Released the software as open source; maintained documentation for adoption and reuse. Released the software as open-source, with details accessible from this link.
- Recognition from WKU leadership (2012 letter from President Gary Ransdell) for advancing accessibility, available from this link.

HyperManyMedia (HMM) Platform — *August 2005–July 2015*
- Developed **HyperManyMedia**, a first-of-its-kind recommender system for **semantically enriched open learning resources**.
- Reached **800,000+** learners and informed **30+** scholarly publications indexed in ACM, IEEE, and related digital libraries.

WKU TSOnline Center (Technology Service for Online Teaching) — *August 2005–July 2013*
- Proposed and launched the TSOnline concept (to Dr. Beth Laves, 2005); established the Center in the Garrett Conference Center (2006).
- Served as a campus hub (2006–2012) providing faculty with instructional technology support for online and hybrid teaching.