Luke S. Snyder

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Education

2021-Present	**Ph.D.** in Computer Science & Engineering Advisor: Dr. Jeffrey Heer GPA : 4.0/4.0	University of Washington, Seattle, WA, USA
2018-2020	**M.S.** in Computer Science Advisor: Dr. David S. Ebert Thesis title: Predictive Visual Analytics of Social Media Data for Supporting Real-time Situational Awareness GPA : 4.0/4.0	Purdue University, West Lafayette, IN, USA
2014-2018	**B.S.** in Computer Science, *Summa Cum Laude* Minor in Mathematics Advisor : Dr. Wing Ning Li Thesis title: An Agent-based Approach to Simulating the Minimum Wage Market GPA : 4.0/4.0	University of Arkansas, Fayetteville, AR, USA

Publications

Journal Papers (peer-reviewed)

J3. A. Reinert, **L. S. Snyder**, J. Zhao, A. S. Fox, D. F. Hougen, C. Nicholson, and D. S. Ebert. Visual analytics for decision-making during pandemics. *Computing in Science & Engineering*, 22(6):48–59, Nov 2020

J2. **L. S. Snyder**, Y.-S. Lin, M. Karimzadeh, D. Goldwasser, and D. S. Ebert. Interactive learning for identifying relevant tweets to support real-time situational awareness. *IEEE Transactions on Visualization and Computer Graphics*, 26(1):558–568, Jan 2020

J1. J. Zhao, M. Karimzadeh, **L. S. Snyder**, C. Surakitbanharn, Z. C. Qian, and D. S. Ebert. MetricsVis: A visual analytics system for evaluating employee performance in public safety agencies. *IEEE Transactions on Visualization and Computer Graphics*, 26(1):1193–1203, Jan 2020

Conference Papers (peer-reviewed)

C3. **L. S. Snyder**, J. Zhao, A. Reinert, G. Wang, and D. S. Ebert. PanViz 2.0: AI-driven visual analytics to adapt to the novel challenges of covid-19. *Proceedings of the Hawaii International Conference on System Sciences*, HICSS-54, Jan 2021

C2. **L. S. Snyder**, M. Karimzadeh, C. Stober, and D. S. Ebert. Situational awareness enhanced through social media analytics: A survey of first responders. *IEEE International Symposium on Technologies for Homeland Security*, HST 2019, pp. 1–8. IEEE, Nov 2019

C1. **L. S. Snyder**, M. Karimzadeh, R. Chen, and D. S. Ebert. City-level geolocation of tweets for real-time visual analytics. *Proceedings of the 3rd ACM SIGSPATIAL International Workshop on AI for Geographic Knowledge Discovery*, GeoAI 2019, pp. 85–88. ACM, Nov 2019

Book Chapters

B1. M. Karimzadeh, J. Zhao, G. Wang, **L. S. Snyder**, and D. S. Ebert. Human-guided visual analytics for big data. *Big Data in Psychological Research*, pp. 145–177. American Psychological Association, Washington, DC, USA, Jan 2020

Research and Technical White Papers

T1. M. Karimzadeh, **L. S. Snyder**, and D. S. Ebert. Geovisual analytics and interactive machine learning for situational awareness. *US National Report to the International Cartographic Association*, ICC 2019. Tokyo, Japan, 2019

Conference Presentations

P2. M. Karimzadeh, **L. S. Snyder**, and D. S. Ebert. City-level geolocation of tweets for real-time visual analytics. *GeoAI Symposium: AI for Geographic Information Retrieval and Geo-Text Analysis*, virtual session, AAG Annual Meeting. Denver, CO, USA, 2019

P1. M. Karimzadeh, **L. S. Snyder**, and D. S. Ebert. Interactive deep learning for identifying relevant social media posts in crisis monitoring. *GeoAI and Deep Learning Symposium : Deep Learning in Geography*, AAG Annual Meeting. Washington, DC, USA, 2019

Research Experience

University of Washington IDL Lab
Graduate Research Assistant with Dr. Jeffrey Heer — 2021-Present

2021-Present **Automatic interaction for data visualization**
Investigating interaction via input mechanism taxonomy and automatic, user-adaptive interaction techniques for static data visualizations.

University of Oklahoma DISC Institute
Research Associate with Dr. David S. Ebert — 2020-2021

2020-2021 **Visual analytics for decision-making during pandemics**
Investigating novel visual analytics techniques for decision-making during COVID-19, including interactive interdiction planning and human-guided parameter inference for disease spread models.
Relevant publications : J3, C3

Purdue University VACCINE Lab
Graduate Research Assistant with Dr. David S. Ebert — 2018-2020

2018-2020 **Interactive learning for identifying relevant tweets to support real-time situational awareness**
Designing an interactive machine learning framework and visual analytics system to rapidly identify relevant information from streaming text data to facilitate real-time situational awareness.
Relevant publications : J2, T1, P1

2019 **City-level geolocation of tweets for real-time visual analytics**
Developing a visual analytics approach for real-time geolocation inference of non-geotagged streaming text data to support situational awareness during large-scale events.
Relevant publications : C1, P2

2019 **Situational awareness enhanced through social media analytics : A survey of first responders**
Investigating first responders' use of social media data, barriers and gaps between existing social media analytic systems and current research, and opportunities for future research directions.
Relevant publication : C2

University of Arkansas Department of Computer Science and Computer Engineering
Undergraduate Thesis Project with Dr. Wing Ning Li — 2017-2018

2017-2018 **Agent-based modeling of minimum wage market dynamics**
Modeling market economy dynamics with NetLogo agent-based simulation environment to estimate short- and long-term employment effects of a minimum wage increase.

Industry Experience

Southwest Power Pool, Little Rock, AR
Information Technology Intern — 2016

2016 **Staging Dependency Launcher**
Implementing the Staging Dependency Launcher, an application for automatically executing stored procedures and Informatica workflows based on external dependency mappings.
Utilizing Java, JMS/ActiveMQ, Oracle database, and Vaadin UI framework for full stack development.

Teaching Experience

2018-2020	Graduate Mentor for four undergraduate students participating in the Vertically Integrated Projects (VIP) at Purdue University
Summer 2019	Graduate Mentor for two students in the Summer Undergraduate Research Fellowship (SURF) program at Purdue University
2015-2016	Tutor for University Physics I, University Chemistry I and II, College Algebra, Plane Trigonometry, and Calculus I and II at University of Arkansas Class+ Center

Honors and Awards

2020	Nominated by Purdue University for Midwestern Association of Graduate Schools Distinguished Masters Thesis Award – Currently awaiting announcement of award recipients
2018	First-ranked Senior Scholar awarded by University of Arkansas
2018	Most Outstanding Senior in Computer Science awarded by University of Arkansas
2018	Honors College Research Grant awarded by University of Arkansas
2018	J.B. Hunt Hackathon Winner
2014-2018	Chancellor and Dean's List awarded by University of Arkansas
2015	Freshman of the Year Finalist awarded by the University of Arkansas College of Engineering
2015	Highest university grade in Macroeconomics at the University of Arkansas
2014	Highest university grade in Calculus II at the University of Arkansas

Scholarships

2017-2018	University of Arkansas Taft-O'Neal-Geels Scholarship
2016-2018	University of Arkansas College of Engineering Scholarship
2016-2018	University of Arkansas Ed and Karlee Bradberry Access Arkansas Scholarship
2016	Arkansas Academy of Computing Scholarship
2015-2016	University of Arkansas Winthrop Rockefeller Scholarship
2014-2018	University of Arkansas Chancellor's Community Scholarship
2014-2018	Arkansas Academic Challenge Scholarship
2014-2018	Arkansas Governor's Scholarship
2014-2018	University of Arkansas Band Scholarship

Professional Services

Organizations

Secretary, Association for Computing Machinery (ACM), University of Arkansas, 2016-2017
Honors College Ambassador, University of Arkansas, 2015-2018

Conference Reviewer

The IEEE Conference on Visual Analytics Science and Technology (IEEE VAST 2019)

Hawaii International Conference on System Sciences (HICSS-53, 54)