

Luke S. Snyder

✉ snyderl@cs.washington.edu <https://luke-s-snyder.github.io/> 📍 Seattle, WA

EDUCATION

| | | |
|--------------|---|---|
| 2021-Present | Ph.D. in Computer Science & Engineering Advisor: Dr. Jeffrey Heer | 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, <i>Summa Cum Laude</i> 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)