Jingwen (*Jessica*) Wang

Curriculum Vitae

Education

2013–2019 **Ph.D., Computer Science**, *University of Massachusetts Lowell*, MA, USA
Dissertation: Generating An Overview Report of Multilevel Structure over A Large Corpus of Documents.

2011–2013 **MS, Computer Science**, *University of Massachusetts Lowell*, MA, USA

2006–2010 **BS, Computer Science**, *Tianjin University of Science and Technology*, China

Employment History

Aug 2019 - Present **Assistant Professor**, *Elizabethtown College*,
One Alpha Dr, Elizabethtown, PA 17022, USA
Department of Computer Science

Sep 2012–May 2018 **Research Assistant**, *University of Massachusetts Lowell*,
One University Ave, Lowell MA 01854, USA
Department of Computer Science

Aug – Dec 2013 **Teaching Assistant**, *University of Massachusetts Lowell*,
One University Ave, Lowell MA 01854, USA
Department of Computer Science

Teaching Experience

CS 113 **The Power and Beauty of Computing**
The syntactic and execution of the Python 3 programming language, including data types, arithmetic operators and assignment, input/output, selection and iteration constructs.

CS 121 **Computer Science I**
The fundamental concepts of computer organization, machine-level representation of data, and Java/Python programming, data types; arithmetic operators and assignment; input/output, selection and iteration constructs; procedural abstraction; arrays; object-oriented programming and class design; and library usage.

CS 309 **Database Systems**
The concepts and design of relational database systems, include the relational model, SQL, relational algebra, E-R model, functional dependency theory, and normal forms. This course also introduce non-relational database systems and database connectivity.

Department of Computer Science – Elizabethtown College
One Alpha Drive, Elizabethtown, Pennsylvania 17022
1-717-361-4760 • *wangjingwen@etown.edu*
jingwenjessica.github.io

CS 310 **Web Development**
The concepts of programming for the World Wide Web, including relationship between clients and servers, how the internet works, and web pages are constructed, and building websites using HTML5, CSS, JavaScript, PHP/Node.js, SQL, and MongoDB.

CS 322 **Algorithms**
The introduction to algorithm design and analysis. Divide-and-conquer approaches, hashing and randomized algorithms, graph algorithms, dynamic programming, and NP-completeness are covered.

CS 341 **Software Engineering**
Introducing the conceptual and practical aspects of process behind software engineering. The course covers requirements engineering, architecture and design patterns, testing and maintenance, and software quality.

CS 400 **Project in Computing**
An advanced research course for Computer Science majors.

CS 495 **Honor Project in Computing**
An advanced research course for Computer Science majors and a prerequisite for Honors in the Discipline.

Projects, Research and Grants Experience

* denotes undergraduate advisee/co-author. # denotes Honors in Discipline or College Honors project.

2023 GCP Google Cloud Teaching Credits Award
PI, Instructor, For instructor and students to deploy their course projects and web-based applications on Google Cloud.
Year: Aug. 2023 - Dec. 2023
Amount: $1,350.00

2023 SCARP Elizabethtown College, Creative Arts and Research and Planning Project
PI, Etown-Chatbots, College Chatbot Systems Leveraging Large Language Models.
Year: May 2023 - July 2023
Amount: $14,048.38
- Presentation: *Alexander Fox, *Joshua Stoner, and **Wang, J.**, Etown-Chatbots, College Chatbot Systems Leveraging Large Language Models with Customized Data. *14th Annual Landmark Conference Summer Research Symposium*, July 20, 2023.

2023 SCAD Elizabethtown College, Scholarship and Creative Arts Day (SCAD).
Advisor. April 25, 2023.
- Poster: #*Nathaniel Mansfield and **Wang, J.**. Implementing a Web-Based Order Management System. Awarded ***Honorable Mention Senior Capstone Project***.
- Presentation: *Blake Hildebrand and **Wang, J.**. Developing a 2D Game using Unity Game Engine.
- Poster: *Ethan Lajeunesse, *Michael Kennedy, and **Wang, J.**. LabShare - A Cloud based Social Networking Application for Scientists.

Department of Computer Science – Elizabethtown College
One Alpha Drive, Elizabethtown, Pennsylvania 17022
1-717-361-4760 • *wangjingwen@etown.edu*
jingwenjessica.github.io

2022 GCP Google Cloud Research Credits Award
PI, Automated Essay Scoring on K-12 Argumentative Writing.
Year: Aug. 2022 - Dec. 2022
Amount: $5,000.00

2022 GCP Google Cloud Teaching Credits Award
PI, Instructor, For the teaching of Computer Science courses on Cloud Computing and Cloud Deployment.
Year: Aug. 2022 - Dec. 2022
Amount: $5,000.00

2022 SCARP Elizabethtown College, Creative Arts and Research and Planning Project
PI, NetSec: Accelerated Malware Detection in Executable Files with Machine Learning.
Year: May 2022 - July 2022

- Presentation: *Ethan Weitkamp, *Yusuke Satani, **Wang, J.**, and Li, P., NetSec: Accelerated Malware Detection in Executable Files with Machine Learning. *13th Annual Landmark Conference Summer Research Symposium*, July 21, 2022.
- Presentation of the follow up study: *Ethan Weitkamp, *Yusuke Satani, and *Adam Omundsen, and **Wang, J.** and Li, P., MalloT: Scalable and Real-time Malware Traffic Detection for IoT Networks. *The 38th Annual Pennsylvania Association of Computer Information Science Educators Conference (PACISE)*, March 24, 2023. Awarded ***Best Undergraduate Student Paper Award***.

2021 SCARP Elizabethtown College, Creative Arts and Research and Planning Project.
PI, SnapChain: A Web-based Medical Data Management and Sharing System Secured by Blockchain.
Year: May 2021 - July 2021

- Presentation: *Matthew Grohotolski, **Wang, J.**, and Li, P., SnapChain: A Web-based Medical Data Management and Sharing System Secured by Blockchain. *12th Annual Landmark Conference Summer Research Symposium*, July 22, 2021.

2020 SCARP Elizabethtown College, Creative Arts and Research and Planning Project.
PI, Building a Secure Inter-institutional Data Sharing Platform with Blockchain.
Year: June 2020 - Aug. 2020

- Presentation *Grace Cuff, *Jeff Edmonds, and **Wang, J.**, Building a Secure Inter-institutional Data Sharing Platform with Blockchain. *11th Annual Landmark Conference Summer Research Symposium*, July 22, 2020.

2013–2019 Thesis research, Department of Computer Science, University of Massachusetts Lowell
Generating An Overview Report of Multilevel Structure over A Large Corpus of Documents.

Department of Computer Science – Elizabethtown College
One Alpha Drive, Elizabethtown, Pennsylvania 17022
1-717-361-4760 • *wangjingwen@etown.edu*
jingwenjessica.github.io

Publications

[1] *Alexander Fox, *Joshua Stoner, and **Wang, Jingwen**. Etown-chatbot: Etown-chatbot: A college chatbot system leveraging large language model with customized data [work in progess].

[2] **Wang, Jingwen**, Peilong Li, *Ethan Weitkamp, *Yusuke Satani, and *Adam Omundsen. Malbuster: Scalable, real-time, and concept drift-adaptive malware detection for smart environments [unpublished]. In *2024 IEEE 21st Consumer Communications Networking Conference (CCNC) - T6: IoT: From Sensors to Vertical Applications*, 2024.

[3] Julia Lensing, **Wang, Jingwen**, Branden Johnson, and Youngjun Choe. Text mining of practical disaster reports: Case study on cascadia earthquake preparedness. [unpublished manuscript]. *Risk Analysis*, 2023.

[4] *Ethan Weitkamp, *Yusuke Satani, *Adam Omundsen, **Wang, Jingwen**, and Peilong Li. Mallot: Scalable and real-time malware traffic detection for iot networks. In *The 38th Annual Pennsylvania Association of Computer Information Science Educators Conference (PACISE)*, 2023. ***Best Undergraduate Student Paper Award***.

[5] **Wang, Jingwen**, Hao Zhang, Cheng Zhang, Wenjing Yang, Liqun Shao, and Jie Wang. An effective scheme for generating an overview report over a very large corpus of documents. In *The 19th ACM Symposium on Document Engineering*. ACM, 2019.

[6] **Wang, Jingwen** and Jie Wang. Hierarchical topic clustering over large collections of documents. In *The 18th International Conference on Information & Knowledge Engineering*, 2019.

[7] **Wang, Jingwen**, Changfeng Yu, Wenjing Yang, and Jie Wang. Vocab learn: A text mining system to assist vocabulary learning. In *The 11th International Joint Conference on Knowledge Discovery, Knowledge Engineering and Knowledge Management (IC3K)*. IEEE, 2019.

[8] Shengting Wu, Yuling Liu, **Wang, Jingwen**, and Qi Li. Sentiment analysis method based on kmeans and online transfer learning. 2019.

[9] Jie Wang, Hao Zhang, Wenjing Yang, **Wang, Jingwen**, Yiqi Bai, and Ming Jia. Big data text automation on small machines. In *Big Data of Complex Networks*, pages 51–90. Chapman and Hall/CRC, 2016.

[10] Liqun Shao and Jie Wang. (talk) dtatg: An automatic title generator based on dependency trees. In *Proceedings of the International Joint Conference on Knowledge Discovery, Knowledge Engineering and Knowledge Management*, IC3K 2016, pages 166–173. SCITEPRESS - Science and Technology Publications, 2016.

[11] **Wang, Jingwen** and Jie Wang. qread: A fast and accurate article extraction method from web pages using partition features optimizations. In *Knowledge Discovery, Knowledge Engineering and Knowledge Management (IC3K), 2015 7th International Joint Conference on*, volume 1, pages 364–371. IEEE, 2015.

Department of Computer Science – Elizabethtown College
One Alpha Drive, Elizabethtown, Pennsylvania 17022
1-717-361-4760 • *wangjingwen@etown.edu*
jingwenjessica.github.io

[12] Yiqi Bai, Wenjing Yang, Hao Zhang, **Wang, Jingwen**, Ming Jia, Roland Tong, and Jie Wang. Kwb: An automated quick news system for chinese readers. In *Proceedings of the Eighth SIGHAN Workshop on Chinese Language Processing*, pages 110–119, 2015.

[13] Ming Jia, Hualiang Xu, **Wang, Jingwen**, Yiqi Bai, Benyuan Liu, and Jie Wang. Handling big data of online social networks on a small machine. In *Journal of Computational Social Networks*, pages 2–5. Springer, 2015.

Professional Training and Professional Societies

NETI-1 National Effective Teaching Institute (NETI).
NETI-1 Workshop - Course Design and Student Engagement.
Year: Jan. 2023.

ACM Association for Computing Machinery (ACM)

SIGCSE ACM's Special Interest Group on Computer Science Education (SIGCSE)

Service

Elizabethtown College

2023-present **Chair, Educational Assessment Committee (EAC)**
Set meeting agendas, coordinated committee workflows, liaised with institutional stakeholders, and managed annual assessment reports, ensuring cohesive educational assessment strategies.

2022-present **Educational Assessment Committee (EAC)**
Helped analyze assessment data, prepare assessment materials, collaborated with committees for unified assessments.

2022 **Academic Council (AC)**
Engaged in curriculum enhancement, promoted diversity, and pushed for academic progress, all while fostering open communication with stakeholders.

2021 **Personnel Council (PC)**
Participate in the meeting to shape personnel policies, steer performance evaluations, and championed diversity while strategizing to retain talent and reduce turnover.

Computer Science Department

2019-present Participated in CS curriculum updates aligned with industry standards, conducted cutting-edge research, and provided essential mentorship to students. Collaborated closely with faculty, actively engaged with student recruitment events and the community events.

2019-present **Major Advisor**, (majors in Computer Science, Information System, Data Science, and minors in Computer Science).
Guided students in course selection, provided career and graduate school insights, connected them to research and professional networks, addressed academic challenges, and promoted club involvement and continuous learning.

Department of Computer Science – Elizabethtown College
One Alpha Drive, Elizabethtown, Pennsylvania 17022
1-717-361-4760 • *wangjingwen@etown.edu*
jingwenjessica.github.io

2023-present **Advisor, Google Developer Student Club (GDSC) and Computer Science Club (CS Club)**.
Aided in organizing key events like hackathons and coding challenges, secured essential resources for club activities. Fostered collaborations between the GDSC, CS Club, and other tech-related entities, and prioritized creating a diverse and inclusive club environment.

2019-present **Advisor, Google Developer Student Club (GDSC) and Computer Science Club (CS Club)**.
Helped club promotion efforts, supported career development sessions, supported students with on-campus server hosting for Etown Minecraft, and prioritized creating a diverse and inclusive club environment.

Other Professional Service

Judge
- The North Museum Science and Engineering Fair (NMSEF), 2023 and 2022.
- The 2022 Elizabethtown Anna Carper Excellence in Library Research Award.

Reviewer
- Association for Computational Linguistics Rolling Review - ACL ARR, 2023 (Feburary, April), and 2022 (March, April).
- The Conference on Empirical Methods in Natural Language Processing (EMNLP 2022, 2021).
- The Joint Conference of the Association for Computational Linguistics and the International Joint Conference on Natural Language Processing (ACL-IJCNLP 2021, 2020).
- Virtual Clinical Informatics Conference (AMIA 2020, 2019).
- IEEE International Conference on Machine Learning and Applications (ICMLA 2019).

Talk
- **Wang, J**. The Skeleton, Skin, and Brain - How to Build a Web-based Application. All Star Code Summer Camp. July 14, 2021.

Honor & Awards

March 2023 **2022-2023 Emergent Scholar Mentor**, Elizabethtown College.
Student: *Isabel Pacheco Mattivi*.

May 2016 **Graduate Research Scholars Awards**, US Bank College of Sciences Deans, University of Massachusetts Lowell.

May 2015 **Martin Schedlbauer CS Endowmen Award**: University of Massachusetts Lowell.

Sep. 2014 **Excellence in Computer Science Award**: PM Raj Fund, University of Massachusetts Lowell.

May 2012 **ACM Travel Award**: For travel expenses on attending ACM Special Interest Group on Management of Data Conference (SIGMOD).

Department of Computer Science – Elizabethtown College
One Alpha Drive, Elizabethtown, Pennsylvania 17022
1-717-361-4760 • *wangjingwen@etown.edu*
jingwenjessica.github.io