Steph Buongiorno, PhD

Curriculum Vitae

Department of Video Game Design (Guildhall) sbuongiorno@smu.edu
Southern Methodist University
Ford Hall 306E
3100 McFarlin Blvd, Dallas, TX 75205

Education

2023 PhD, Applied Science, Lyle School of Engineering, Southern Methodist University
- Subject areas: Computer Science, English, and History.
- Dissertation: “Grammatical Triples Extraction for the Distant Reading of Textual Corpora.” Committee Members: Jo Guldi (Chair), Corey Clark (Co-Chair), David Lin, Mark Fontenot, Miju Ahn, Tim Cassedy.

2017 MA, English, West Virginia University

2014 BA, English & Linguistics, University of Texas at Arlington (Summa Cum Laude)

Employment: Research Positions

2023-25 Postdoctoral Fellow, Guildhall Video Game Department, Southern Methodist University

2022-23 Technical Lead, “The Human Trafficking Project,” Department of Computer Science, National Institute of Justice Grant (H.R. 2471), PI Corey Clark, Southern Methodist University

2021-22 Research Assistant, “Toward a History of the Associative-Developmental State,” Department of History, Southern Methodist University

2021-22 Research Assistant, “The History of Modern China,” Department of History, Southern Methodist University

2018-21 Technical Lead and Project Manager, “Global Urbanization and Housing Affordability: Poverty, Property, and the City,” National Science Foundation Grant (no. 1520103), PI Jo Guldi, Department of History, Southern Methodist University

Employment: Teaching Positions

2024-25 Postdoctoral Fellow, Guildhall Video Game Department, Southern Methodist University
Topic: Research and writing for theses (for master’s students across four

	specializations: programming, level design, art, and production).
2025	Part-Time Lecturer, iSchool, University of Texas Topic: Introductory Python programming for informatics students.
2023-24	Democracy Lab Co-Director, Emory University Topic: Development of an advanced text mining, data sharing, and data visualization public web app for the digital humanities (with 3-8 undergraduate students at a given time).
2023-24	Postdoctoral Fellow, Team Lead for Level Design and Programming thesis students designing AI systems, Guildhall, Southern Methodist University Topic: creative narrative development and system design for a film-noir style detective thriller driven by generative AI.
2023	Support Instructor, Team Game Production I, Guildhall, Southern Methodist University Topic: Reproducibility and version control.
2022-23	Teaching Fellow, Foundations and Applications of Humanities Analytics, National Endowment of the Humanities Grant (no. HT-272418-20), Santa Fe Institute Topic: Digital humanities and cultural analytics.
2021-22	Support Instructor, Topics in Digital History, Southern Methodist University Topic: Code, bias, and the representation and obfuscation of gender in both coding libraries and textual corpora (e.g. U.S. Congress and Reddit).
2017-18	Graduate Teaching Assistant, Academic Writing, Southern Methodist University Topic: Introduction to academic research and writing.
2015-17	Graduate Teaching Assistant, Composition and Rhetoric, West Virginia University Topic: Introduction to academic research and writing.

Employment: Related Positions

2023-present	Instructor, Guildhall Academy (video game design for high school students), Guildhall, Southern Methodist University
2022-23	Computer Science Senior Design, Southern Methodist University

Awards

2023	Dean’s Award for Best Poster Presentation in Computer Science, Southern

Methodist University

Publications

Peer Reviewed Books

Steph Buongiorno **[Corresponding Author]** and Jo Guldi. *Text Mining for Historical Analysis*. Under contact at Cambridge University Press. Estimated release: Spring 2025

Steph Buongiorno **[Corresponding Author]** and Jo Guldi. *Text Mining for Historical Analysis*. eBook edition. Under contact at Cambridge University Press. Estimated release: Spring 2025

Peer Reviewed Conference Proceedings

Steph Buongiorno **[Corresponding Author]**, Jake Klinkert, Tanishq Chawla, Zixin Zhuang, and Corey Clark. "PANGeA: Procedural Artificial Narrative Using Generative AI for Turn-Based Video Games." *Proceedings of the 2024 Association for the Advancement of Artificial Intelligence (AAAI) Conference on Artificial Intelligence and Interactive Digital Entertainment* (AIIDE), Lexington, KY, USA, 2024.

Jake Klinkert, Steph Buongiorno **[Second Author]**, Corey Clark. "Evaluating the Efficacy of LLMs to Emulate Realistic Human Personalities." *Proceedings of the 2024 Association for the Advancement of Artificial Intelligence (AAAI) Conference on Artificial Intelligence and Interactive Digital Entertainment* (AIIDE), Lexington, KY, USA, 2024.

Steph Buongiorno **[Corresponding Author]**, and Corey Clark. "Leveraging Gaming to Enhance Knowledge Graphs for Explainable Generative AI Applications." *Proceedings of the 2024 Institute of Electrical and Electronics Engineers (IEEE) Conference on Games (CoG)*, Milan, Italy, 2024.

Articles Under Review

Steph Buongiorno **[Corresponding Author]**. “Beyond the Black Box: Toward Explainable AI for Computational Text Analysis in the Digital Humanities.” Submitted at *Journal of Cultural Analytics.*

Jo Guldi, Peter Kastor, and Steph Buongiorno **[Last Author]**. “Word Embeddings as a Key to the Study of Bias, Race, and Gender in Congress, 1880-2010.” Under review. *Journal of Digital History*.

Steph Buongiorno **[Corresponding Author]**, Alexander Cerpa, Jo Guldi. “Hansard 2.0: Discovering Lost Records and the Creation of an Analysis Ready Data Set.” Revise and resubmit at *Journal of Cultural Analytics.*

Papers In Development

Zhongjie Wu, Steph Buongiorno **[Second Author]**, Yanjun Pan, Eric Larson, Leanne Ketterlin-Geller. “Neural Network Design for Mining Large Amounts of Educational Data.” Target publication venue: Educational Data Mining.

Steph Buongiorno **[Corresponding Author]** and Ryan Schaefer. "Democratizing Text-Based Data Analytics and Data Sharing Across the Humanities and Social Sciences". Target publication venues: ACM.

Other Contributions

Datasets

Steph Buongiorno; Robert Kalescky; Omar Alexander Cerpa; Jo Guldi, 2022, "The Hansard 19th-Century British Parliamentary Debates with Improved Speaker Names: Parsed Debates, N-Gram Counts, Special Vocabulary, Collocates, and Topics", https://doi.org/10.7910/DVN/ZCYJH8, Harvard Dataverse.

Steph Buongiorno; Omar Alexander Cerpa; Jo Guldi, 2022, "The Hansard 19th-Century British Parliamentary Debates with Improved Speaker Names: Speaker Metadata", https://doi.org/10.7910/DVN/Z3LTVV, Harvard Dataverse, FORTHCOMING

Open Source Software Development

Steph Buongiorno, Ryan Schaefer, Hailey DeMark, Francesca La Marca, Grace Schultz, Wes Anderson, Chris Miller, and Matt Swigart. Democracy Viewer, Emory University. *I lead the on-going development of a public-facing web app for exploring, text mining, and visualizing humanities and social sciences data sets in languages including (but not limited to) English, German, Spanish, and French. Recently adopted by Emory's Center for AI Learning.*

Steph Buongiorno. The Hansard Viewer. Southern Methodist University, 2022. A Shiny app for text mining and visualizing the 19th-century British parliamentary debate using data science metrics.

Steph Buongiorno. The Congress Viewer. Southern Methodist University, 2022. Description: A Shiny app for text mining and visualizing the U.S. Congressional Records using data science metrics.

Steph Buongiorno. nasa. ROpenGov, CRAN. Description: An R package for accessing and downloading data from NASA APIs, including Mars rover photos, Astronomy Picture of the Day, Earth imagery, and natural events.

Steph Buongiorno. noaa. ROpenGov, CRAN. Description: An R package for querying a clean version of NOAA climate and weather data.

Steph Buongiorno. usdoj. ROpenGov, CRAN. Description: An R package for creating a structured version of the U.S. Department of Justice press releases, blogs, and records. [300 downloads per month]

Steph Buongiorno. uscongress. ROpenGov, CRAN. Description: An R package for creating a structured version of the U.S. Congressional Records. Parses raw text into delimited fields for record URL, speaker, title, and body text.

Steph Buongiorno. oldbailey. ROpenGov, CRAN. Description: An R package for creating a structured version of the Old Bailey criminal trials. Handles broken tags and messy data and returns an analysis-ready dataset.

Steph Buongiorno. hansardr. GitHub. Description: An R package for querying a clean version of the 19th-century Hansard Corpus.

Steph Buongiorno and Omar Alexander Cerpa. hansard-speakers. GitHub. Description: Code for disambiguating speakers in the 19th-century Hansard Corpus using Levenshtein distances and parallel computing.

Steph Buongiorno and Omar Alexander Cerpa. posextract. GitHub. Description: A Python package for extracting grammatical subject-predicate triples from data. Tailored for the analysis of agency in text.

Steph Buongiorno. posextractr. GitHub. Description: An R package for extracting grammatical subject-predicate triples from data. Tailored for the analysis of agency in text.

Steph Buongiorno and Jo Guldi. democracy-lab. GitHub. Description: A code repository for text mining techniques for the Digital Humanities.

Steph Buongiorno and Ryan Schaefer. dhmeasures. GitHub. Description: Optimized, "white-box" statistical functions for textual analysis.

Steph Buongiorno. "Foundations and Applications of Humanities Analytics 2023." Santa Fe Institute. GitHub. *I was the lead instructor for the SFI's "Humanities Analytics" summer camp two years running. My code – shared here as a Github page — formed the basis for all instruction and activity.*

Steph Buongiorno. "Foundations and Applications of Humanities Analytics 2022." Santa Fe Institute. GitHub.

Steph Buongiorno. "Digital History." Southern Methodist University. GitHub.

Zixin Zhuang, Pravin Ramona, Corey Clark, Steph Buongiorno. "PANGeA." Southern Methodist University. Gitlab.

Video Game Development

Dark Shadows

Steph Buongiorno, Jake Klinkert, Tanishq Chawla, Zixin Zhaung, and Corey Clark. *Dark Shadows*, Southern Methodist University, Guildhall. Topic: Address the real-world problem of human trafficking while playing a video game.

Dark Shadows, Scene I

I conceived of Dark Shadows as a film noir-style "document thriller" (inspired by *Papers, Please!* and *Night Call*). I designed and developed underlying "human-in-the-loop" mechanics to collect player feedback and

train a machine learning model, which can disambiguate speakers, locations, and events in real human trafficking data. I guided graduate students on the design of the gameplay mechanics and narrative. https://www.cbsnews.com/texas/news/i-team-video-game-helps-researchers-fight-sex-trafficking/

Dark Shadows, Scene II

I designed NPCs that leverage large language models (LLMs) and a self-reflection-based validation system to enable dynamic, free-form interactions with the player aligned with a procedural game narrative (re: PANGeA). NPCs express traits from the Big 5 Personality Model in their responses, while the validation system ensures responses stay on narrative track. https://www.youtube.com/watch?v=ys7vTkUZ8ic

Other Contributions

20 visualizations in Jo Guldi's *The Dangerous Art of Text Mining*.

Acknowledgment for support with extracting data for "Determining economic factors for sex trafficking in the United States using count time series regression" by Jang, Y., Sundararajan, R.R., Barreto-Souza, W. *et al. Empirical Economics* 67, 337–354 (2024). https://doi.org/10.1007/s00181-023-02549-w

Grants

Funded (Total: $16,525,476)

Title: SCALE: Scalability, Capacity, and Learning Engagement
Opportunity: Department of Education (no. S411A240014)
Award: $13,990,544
PIs: Leanne Ketterlin-Geller
Summary of Work:

Right to education.

Title: Human Trafficking Project
Opportunity: National Institute of Justice (no. 15PNIJ-22-GK-00246-BRND)
Award: $1,187,000
PIs: Beth Wheaton, Corey Clark, Raanju R. Sundararajan
Summary of Work:
Theory
I investigated and published on how we can use knowledge graphs to encode domain information and guide generative responses, and how we can source this knowledge through crowdsourcing players. This approach could be used to guide responses by LLMs, grounding them in community-sourced knowledge and fact. While this approach was used to improve the use of AI for the domain of human trafficking–where grounding responses in fact and avoiding hallucinations is key–this approach could also be used for meaning-making in digital humanities contexts. In pursuing this research I created open source software: Dark Shadows (the video game), the usdoj R package,

Title: Advanced AI-Driven Research Project Management System Using KĀDI Infrastructure
Award: $100,000
PI: Corey Clark
Summary of Work:

Title: Foundations and Applications of Cultural Analytics in the Humanities
Opportunity: National Endowment of the Humanities (no. FAIN: HT-272418-20)
Award: $247,932
PIs: David Kinney and Simon DeDeo
Summary of Work: At the Santa Fe Institute's Foundations and Applications of Humanities Analytics program, I contributed to the broader adoption of computational text analysis by the digital humanities by developing instructional Jupyter notebooks and leading demonstrations of state-of-the-art methods. My work introduced participants to advanced techniques in text mining and natural language processing, emphasizing their applications within interdisciplinary humanities research.

Title: Global Urbanization and Housing Affordability: Poverty, Property and the City
Opportunity: National Science Foundation Grant (no. 1520103)
Award: $1,000,000

PIs: Jo Guldi, Matthew Desmond, Frank Zephyr
Summary of Work: My research investigated how text mining can be applied to analyze historical change over time, with a particular focus on developing methods that support what I term "computational historical thinking." This line of inquiry has culminated in my forthcoming book, *Text Mining for Historical Analysis*, under contract with Cambridge University Press. As part of this work, I have developed multiple open-source software applications designed to facilitate the computational analysis of historical texts (e.g. Hansard Viewer, Congress Viewer, the oldbailey R package, and the usdoj R package), including the conceptual framework and technical blueprint for Democracy Viewer, which is now a public-facing app hosted by Emory University.

Proposals Under Review

Title: "Explainable AI in Digital Humanities Research: Knowledge Graphs and SHAP"
Submitted: National Endowment of the Humanities, Dangers and Opportunities of Technology: Perspectives from the Humanities
Size: 2 years, $75k
PIs: Thorsten Ries (Comparative Literature and Germanic Studies) and Steph Buongiorno (Guildhall)
Summary:
This Digital Humanities (DH) project focuses on making AI "black boxes" in ML-/AI-based DH applications readable utilizing Explainable AI (XAI) methods (Knowledge Graphs, KG; Shapley Values, SV, SHAP), in order to enable discipline-wide adoption of the concept and technology in "Critical AI" studies and DH. KG and SV are active research areas in CS with the goal to trace and mitigate issues with reliability, robustness, and reproducibility of ML/AI models, as well as ethical concerns about equitable representation, training, and control. Our research project aims to demonstrate that KG and SV in combination are able to trace the reasoning paths of LLMs and ML models in literary (Hölderlin, Goethe, Celan), political science, and historical research contexts (climate change discourse). This improves AI-based research designs in the humanities to become more robust, reliable, and convincing after contentious recent debates (2019). The combination of KG and SV technology allows to critically "read", compare, and measure the reasoning paths taken by an AI through knowledge nodes and feature weights involved in the predictions, revealing underlying methodologies, heuristics, biases embedded in an AI model, its training data, and pathways in human-readable form. Along with two exemplary applied case studies on literary corpora and historical sources using KG and SV, this project will contextualize this undertaking with notes on the technological concept history of these XAI methods and their premises, thus making XAI accessible for humanists (e.g. game theory, semantic network graphs).

Nearing Submission

Title: "Agent-Driven, Game-Based Learning: Personalized CS Education for Students with Reading Disabilities."
Target: National Science Foundation (NSF), Discovery Research PreK-12 (DRK-12)
Size: 4 years, $3mil
PIs: Corey Clark (Computer Science and Guildhall), Leanne Ketterlin Geller (Education), Steph Buongiorno (Guildhall), Yanjun Pan (Education), and Eric Larson (Computer Science)
Summary:

The need for student engagement and skill development in STEM concepts has never been greater. However, the lack of universal access support to students with reading disabilities can hinder individual progress towards obtaining these skills. This challenge was made even more difficult by the COVID pandemic, which affected the performance of students with reading disabilities and left instructors with the challenge of managing a wider range of student skills. When learning materials are appropriately accessible, students are able to meaningfully demonstrate their understanding in ways that are comparable to their peers. AI agents, powered by large language models (LLMs), offer a unique solution to providing universal access to students with reading disabilities. LLMs are highly flexible and adaptable, with an ability to autonomously process information and tailor learning experiences to individual student needs. This personalization enhances learning without compromising the generalizability of the AI agents' design in which a singular agent design can be deployed and autonomously adapted to diverse scenarios.

Our project aims to extend the state-of-the-art in AI agent design and deploy AI agents in K-12 classrooms to promote equity and better prepare students for careers in a technology-driven world. This project builds on prior NSF-funded research, including the "Factory Craft" initiative in Minecraft, aimed at making STEM education accessible to diverse student populations. We propose to extend this research by designing and deploying two types of AI agents in K-12 classrooms: "Personalized Education Agents" and "Teacher Support Agents." Integrated into game-based platforms like Minecraft, Personalized Education Agents will autonomously adjust learning experiences based on individual literacy needs, offering feedback and creating personalized game scenarios that align with each student's abilities. "Teacher Support Agents" will act as personalized assistants, providing educators with clear insights into student progress through easy-to-read summaries and visualizations. Designed this way, we aim to bridge the gap between accessibility and effective STEM education.

Title: "Increasing the Resiliency of Responses to Human Trafficking through the Design of Open Knowledge Networks Driven by AI-Agents."
Target: National Science Foundation (NSF), Secure and Trustworthy Cyberspace (SaTC)
Size: 4 years, $1mil
PIs: Corey Clark (Computer Science and Guildhall), Steph Buongiorno (Guildhall), Laurie Giddens (Information Technology and Decisions Sciences, University of North Texas)
Summary:
To make the response to human trafficking more resilient, we propose a new data ecosystem of open knowledge networks (OKNs)–combined with information retrieval technology that is driven by AI agents–to improve data accessibility among diverse stakeholders. The need for this technology is clear: In order to maintain privacy and security, stakeholders often cannot directly share key details related to human trafficking incidents. For example, stakeholders may not be able to share documents that contain Personal Identifiable Information (PII). When sharing information is allowed, complicated regulations about how much data, what types of data, or in what format it can be shared can impede or even halt the flow of information. Our research will focus on the state of Texas and confront the problems surrounding the development and use of a distributed, open knowledge network that holds sensitive information that cannot be shared directly. We will research, design, and develop a scalable, AI agent-based OKN architecture to facilitate information flow between stakeholders such as researchers, law enforcement, DHS, and travel intermediaries. The resulting system will enable users to input knowledge artifacts and interact with an agent-based interface that leverages the OKN to automatically identify the data and techniques needed to answer their questions. Our aim is to leverage these OKNs and AI agents to improve information flow between stakeholders (e.g. law enforcement, DHS, travel intermediaries) while upholding legal standards in

a way that minimizes the risk of harm to individuals and society and protects the civil rights and liberties of an underserved and marginalized population. To this end, we propose the design of an OKN that contains four agent types that effectively supplement direct human oversight in areas where privacy is needed: (1) Bridging Agents (to make secure connections within accessible data); (2) Analyst Agents; (3) Visualization Agents; and (4) Integrity Agents (to validate and apply data privacy and sharing policies). The OKN will contain a validation loop in which multiple agents are tasked with mediating the input and output data against privacy and data sharing policies. In addition, will provide an opportunity to integrate feedback from humans who can provide validation and authorization to a user's requests. Designed this way, the OKN advances the state-of-the-art in privacy-preserving data sharing and analytics (PPDSA) technology.

Invited Lectures and Presentations

2025	“Introducing Democracy Viewer,” Invited Panelist at the Archives as Data Conference, Columbia University, hosted by Columbia’s History Lab and Columbia Libraries
2024	“Introducing Democracy Viewer,” DHLab, The University of Texas at Austin
2024	“Combating Human Trafficking with Technology,” World Affair Council of DFW, hosting U.S. State Department international visitors from India
2024	“Introducing the Democracy Viewer Web App,” History of Parliament Trust
2024	“Navigating Privacy, Storage, and Analysis in a Generative AI Enabled World,” SMU Human Trafficking Data Conference, Sponsored by Thomson Reuters.
2024	Generative AI and Agents Integration into Human Trafficking Data and Analysis,” SMU Human Trafficking Data Conference, Sponsored by Thomson Reuters.
2024	“Rhetorical Tools for Storytelling,” Guildhall, Southern Methodist University
2023	“What is Machine Learning?,” Department of Civil and Environmental Engineering, Southern Methodist University
2022	“Political Representation: Tensions between Parliament and the People from the Age of Revolutions to the 21st Century,” Department of History, Academy of Finland
2022	“Parliamentary data and search interfaces,” Department of History, Academy of Finland
2022	“Data Storage and Data Processing,” Public Health, UT Southwestern
2022	“Text Mining and Data Analytic Techniques,” Public Health, UT Southwestern
2021	“Extracting Gendered Constructions with spaCy,” History, Southern Methodist University
2021	“Natural Language Processing and Understanding Metadata,” History, Southern Methodist University
2020	“An Introduction to Technical Writing,” Ethical Issues in Computing, Department of Computer Science, Southern Methodist University
2018	“Analyzing Gender and Agency using Grammatical Triples Extraction.” Think-Play-Hack, Southern Methodist University

Media Coverage

"The I-Team: Video game helps researchers fight sex trafficking", CBS Texas, 2023 **[TV]**

"Researchers to present new tool for enhancing AI transparency and accuracy at conference". Microsoft Network (MSN) **[Online Article]**

"SMU creating human trafficking data 'warehouse'", ScienceX, 2023 **[Online Article]**

"'Dark Shadows' Video Game Lights up Human Trafficking Research at SMU", Dallas Innovates, 2023 **[Online Article]**

"SMU researchers to present new tool for enhancing AI transparency and accuracy at IEEE Conference", Newswise, 2023 **[Online Article]**

"SMU researchers to present new tool for enhancing AI transparency and accuracy at IEEE Conference", EurekAlert!AAAS, 2024 **[Online Article]**

"SMU researchers to present new tool for enhancing AI transparency and accuracy at IEEE Conference", ScienMag, 2024 **[Online Article]**

"Researchers to present new tool for enhancing AI transparency and accuracy at Conference", Lifeboat Foundation, 2024 **[Online Article]**

"Researchers to present new tool for enhancing AI transparency and accuracy at Conference", TechXplore, 2024 **[Online Article]**

"Researchers to present new tool for enhancing AI transparency and accuracy at Conference", AI Transformation Hub, 2024 **[Online Article]**

"Researchers to present new tool for enhancing AI transparency and accuracy at Conference", Apex Life Hub, 2024 **[Online Article]**

"SMU researchers to present new tool for enhancing AI transparency and accuracy at IEEE Conference", Bioengineer, 2024 **[Online Article]**

"SMU researchers to present new tool for enhancing AI transparency and accuracy at IEEE Conference", Milano All News, 2024 **[Online Article]**

"Researchers Unveil GAME-KG Framework to Boost AI Transparency and Precision", MultiPlatform AI, N.d. **[Online Article]**

"Researchers to present new tool for enhancing AI transparency and accuracy at Conference", Lifeboat Foundation Russia, 2024 **[Online Article]**

"SMU Unveils AI Transparency Tool at IEEE Conference", Mirage News, 2024 **[Online Article]**

"Researchers to present new tool for enhancing AI transparency and accuracy at conference", Tech Post and Science, 2024 **[Online Article]**

"University Creating Human Trafficking Data Warehouse Using Video Game Tech", Mirage, 2024 **[Online Article]**

"https://www.dallaschamber.org/blog/smu-team-creating-a-data-warehouse-to-fight-human-trafficking/", Dallas Regional Chamber, 2025 **[Online Article]**

"https://www.promptlayer.com/research-papers/a-framework-for-leveraging-human-computation-gaming-to-enhance-knowledge-graphs-for-accuracy-critical-generative-ai-applications", PromptLayer, 2024 **[Online Article]**

"https://www.balancedmediatechnology.com/collaborative-initiative-aids-in-human-trafficking-research/", Balanced|Media Technology, 2024 **[Online Article]**
"https://rviews.rstudio.com/2023/02/28/january-2023-top-40-new-cran-packages/", R Views, 2023 **[Online Article]**
"https://www.r-bloggers.com/2023/02/january-2023-top-40-new-cran-packages/" Rbloggers, 2023 **[Online Article]**

Teaching

2025	I 304 : Programming for Informatics. Undergraduate Course. iSchool, The University of Texas.
2024	HGME 6276: Thesis II: Level Design. Graduate Course. Writing and research support instruction. Guildhall, Southern Methodist University.
2024	HGME 6276: Thesis II: Art. Graduate Course. Writing and research support instruction. Guildhall, Southern Methodist University.
2024	HGME 6276: Thesis II: Software Development. Graduate Course. Writing and research support instruction. Guildhall, Southern Methodist University.
2024	HGME 6276: Thesis II: Production. Graduate Course. Writing and research support instruction. Guildhall, Southern Methodist University.
2024	HGME 6377: Thesis III: Software Development. Graduate Course. “gaia: A GEN-AI Gaming Framework for creating Dynamic Gameplay Content via Large Language Models.” Guildhall, Southern Methodist University.
2024	HGME 6377: Thesis III: Level Design. Graduate Course. “Unveiling New Realms: Enhancing Procedural Narrative Generation and NPC Personalization using AI.” Guildhall, Southern Methodist University.
2024	HGME 6377: Thesis III Production. Graduate Course. “Chinese PC Gamers’ Motivation, Game Preferences, and Publishing Advice for Non-Chinese Game Companies.” Guildhall, Southern Methodist University.
2024	CS 5352: Senior Design II. Undergraduate Course. Computer Science, Southern Methodist University. Topic: Taught a year-long digital humanities project with 3 enrolled undergraduates.
2023	Instructor, Guildhall Academy Video Game Design (for high school students), Guildhall, Southern Methodist University.
2023	CS 5351: Senior Design I. Undergraduate Course. Computer Science, Southern Methodist University. Topic: Taught a year-long digital humanities project with 3 enrolled undergraduates.
2023	HGME 6276: Thesis II Software Development. Graduate Course. “gaia: A GEN-AI Gaming Framework for creating Dynamic Gameplay Content via Large Language Models.” Guildhall, Southern Methodist University.

2023	HGME 6276: Thesis II Level Design. Graduate Course. “Unveiling New Realms: Enhancing Procedural Narrative Generation and NPC Personalization using AI.” Guildhall, Southern Methodist University.
2023	HGME 6592: Team Game Production I. Graduate Course. Topic: Replicability and Version Control. Guildhall, Southern Methodist University.
2023	Teaching Fellow, Foundations and Applications of Humanities Analytics, Santa Fe Institute.
2023	HGME 6268: Directed Studies in Creative Narrative Writing for Video Games. Graduate Course. Guildhall, Southern Methodist University.
2022	HGME 6266: Directed Studies in Creative Narrative Writing for Video Games. Graduate Course. Guildhall, Southern Methodist University.
2022	HIST 3380: Topics in Digital History, Department of History, Southern Methodist University.
2022	Instructor, Guildhall Academy, Southern Methodist University.
2022	Teaching Fellow, Foundations and Applications of Humanities Analytics, Santa Fe Institute.
2021	HIST 3380: Topics in Digital History, Department of History, Southern Methodist University.
2018	WRTR 1312: Introduction to Academic Writing, Department of English, Southern Methodist University. (1 section)
2017	WRTR 1311: Foundations of Writing, Department of English, Southern Methodist University.
2017	PRW 2144: SCUBA, Department of Physical Fitness, Southern Methodist University.
2016-17	ENGL 102: Composition and Rhetoric. Department of English, West Virginia University (4 sections).
2015-16	ENGL 101: Introduction to Composition and Rhetoric. Department of English (4 sections).
2014	EXSA 1249: Advanced Scuba Diving. Department of Exercise and Sport Activity, The University of Texas at Arlington (2 sections).
2014	Scuba Diving. Texas Woman's University. Department of Fitness and Recreation.
2012-14	EXSA 1249: Scuba Diving. Department of Exercise and Sport Activity, The University of Texas at Arlington (6 sections).

Service

PhD Student Mentorship

2025	THORSTEN PHD STUDENT
2024-present	Adam Hanzel, Russian Studies, Metropolitan University Prague
2024-present	Emmy Tither, Informatics, University of Illinois at Urbana Champaign
2024-present	Starr Corbin, Computer Science, Southern Methodist University
2024-25	Erik Hekman, Digital Humanities, Utrecht University
2023	Joel Nyman, History, Academy of Finland

Undergraduate Open Source Software Developer Mentorship

Omar Alexander Cerpa (2020-22)	Chris Miller (2022-23)	Matt Swigart (2022-23)
Wes Anderson (2022-23)	Grace Schultz (2023-present)	Francesca La Marca (2023-present)
Hailey DeMark (2023-present)	Ryan Schaefer (2021-24)	Pravin Ramona (2023-24)
Latifa Tam (2024)	Wenzhuo Ma (2024-present)	Rosie Larson (2024-present)
Serena Di Martino (2024-present)	Shawn Chen (2024-25)	Alisha Morejon (2024-25)
Tiffany Nguyen (2024-205)		

Other Service

2024	Track Co-Chair, SciPy, Social Science, Humanities, Economics, and Human Systems
2024	Peer Reviewer, IEEE Conference on Games, Long Papers
2024	Peer Reviewer, IEEE Conference on Games, Short Papers
2023	Track Co-Chair, SciPy, Computational Social Science and Digital Humanities