ELIZABETH SPAULDING

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EDUCATION

University of Colorado Boulder   *May 2025 (expected)*
Ph.D. in Computer Science
Advisor: James H. Martin

University of Nebraska-Lincoln   *May 2019*
B.S. in Mathematics   GPA: 4.0/4.0
Minors in Computer Science, Spanish

HONORS AND AWARDS

Lead Graduate Student Fellowship   August 2022

- Awarded to lead graduate students in the Center for Teaching & Learning at CU Boulder

David T. Spalding Graduate Teaching Fund Fellowship   February 2022

- Awarded to graduate students who went above and beyond in support of undergraduate education in response to the pandemic

Dean's Summer Research Fellowship   May 2020

- Fellowship awarded to outstanding incoming PhD students at CU Boulder

NASA Nebraska Space Grant Fellowship   August 2017

- Competitive grant for research in STEM fields

Dean's List, University of Nebraska-Lincoln   August 2015 - May 2019

High Scholar, University of Nebraska-Lincoln   August 2015 - May 2019

- Award given to students in the top 10% of their class

University of Nebraska Regents Scholarship   August 2015

- Full tuition scholarship to UNL

TEACHING EXPERIENCE

CSCI 5832 - Natural Language Processing   University of Colorado Boulder
Graduate Teaching Assistant, Course Manager   *Fall '24, Summer '24, Fall '21*

- Held weekly office hours and managed student questions online
- Developed new homework assignments integrating state-of-the-art techniques from current literature in computational linguistics
- Summer 2024-Fall 2024, converted in-person course materials into asynchronous homeworks and labs for CU Boulder's MS-CS program through Coursera

CSCI 2824 - Discrete Structures   University of Colorado Boulder
Graduate Part-time Instructor (Instructor of Record)   *Summer '23*

- Prepared curriculum for sophomore/junior-level mathematics course
- Lectured a summer class of ∼ 50 students

· Organized a team of two graduate students to support the course in grading, office hours, preparation/review of materials, and managing student questions

CSCI 1300 - Starting Computing (C++)
Graduate Teaching Assistant

University of Colorado Boulder

Fall '19, Fall '20, Spring '21

· Led weekly recitation, answered student questions, and graded students' homework
· Held weekly office hours and interview grading
· Developed new homework, projects, and recitation exercises
· From August 2020, served as a Lead TA. Additional duties included organizing instructional team, delegating weekly tasks, and training and mentoring other graduate students

CSCI 2270 - Data Structures (C++)
Graduate Teaching Assistant

University of Colorado Boulder

Spring '20

· Led weekly recitation, answered student questions, and graded students' homework and tests
· Held weekly office hours and interview grading
· Proofread weekly recitation exercises

MATH 103 - College Algebra and Trigonometry
Learning Assistant

University of Nebraska-Lincoln

Fall '17

· Guided students' learning by answering questions and encouraging mathematical discussion
· Led review sessions before each test

RESEARCH EXPERIENCE

Graduate Research Assistant
DARPA KAIROS Project

University of Colorado Boulder

December 2022 - Present

· Maintain the DARPA Wikidata Overlay: an ontology for information extraction which contains a mapping between PropBank rolesets and Wikidata events
· Curate ontology types, incorporating feedback from system developers, ontologists, and program managers
· Led a junior graduate student in developing similarity metrics for instantiated event structures extracted from newstext

Graduate Research Assistant
DARPA AIDA Project

University of Colorado Boulder

June 2020 - December 2022

· Facilitated transition from DARPA's manually-created program ontology to the Wikidata ontology
· Annotated news documents containing claims in the domain of COVID-19
· Developed event matching code in Java for team's entity and event clustering pipeline

Undergraduate Research Assistant
Theoretical and computational studies of wake turbulence

University of Nebraska-Lincoln

August 2017 - May 2019

· Funded by NASA Nebraska Space Grant Fellowship
· Studied theoretical fluid dynamics with an emphasis on boundary layer theory and flow separation
· Modeled fluid flow in Matlab and FEniCS

PUBLICATIONS

Elizabeth Spaulding, Kathryn Conger, Anatole Gershman, Mahir Morshed, Susan Windisch Brown, James Pustejovsky, Rosario Uceda-Sosa, Sijia Ge and Martha Palmer. 2024. PropBank goes Public: Incorporation into Wikidata. To appear in *Proceedings of the 18th Linguistic Annotation Workshop (LAW-XVIII)*, St. Julians, Malta. European Association for Computational Linguistics.

Elizabeth Spaulding, Gary Kazantsev, and Mark Dredze. 2023. Joint End-to-end Semantic Proto-role Labeling. In *Proceedings of the 61st Annual Meeting of the Association for Computational Linguistics (Volume 2: Short Papers)*, pages 723–736, Toronto, Canada. Association for Computational Linguistics.

Elizabeth Spaulding, Kathryn Conger, Anatole Gershman, Rosario Uceda-Sosa, Susan Windisch Brown, James Pustejovsky, Peter Anick, and Martha Palmer. 2023, June 20. The DARPA Wikidata Overlay: Wikidata as an ontology for natural language processing. Forthcoming in *Proceedings of the 15th International Conference on Computational Semantics (ICWS)*. The 2023 Joint ACL - ISO Workshop on Interoperable Semantic Annotation, Nancy, France.

Sarah Beemer, Zak Boston, April Bukoski, Daniel Chen, Princess Dickens, Andrew Gerlach, Torin Hopkins, Parth Anand Jawale, Chris Koski, Akanksha Malhotra, Piyush Mishra, Saliha Muradoglu, Lan Sang, Tyler Short, Sagarika Shreevastava, **Elizabeth Spaulding**, Testumichi Umada, Beilei Xiang, Changbing Yang, and Mans Hulden. 2020. Linguist vs. Machine: Rapid Development of Finite-State Morphological Grammars. In *Proceedings of the 17th SIGMORPHON Workshop on Computational Research in Phonetics, Phonology, and Morphology*, pages 162–170, Online. Association for Computational Linguistics.

INDUSTRY EXPERIENCE

CTO Intern — Bloomberg, L.P.
Joint End-to-end Semantic Proto-role Labeling — *June 2022 - December 2022*

· Built a joint end-to-end semantic proto-role labeling system using Bloomberg's in-house AI and NLP Python libraries
· Achieved competitive results with state-of-the-art models that were not end-to-end
· Published novel research at ACL 2023

Software Engineer Intern — Atilika
Word Replace — *June 2021 - August 2021*

· Led the development of a Chrome extension that would be integrated into the company's Japanese language learning software, japanese.io
· Designed algorithm to locate English vocabulary words in sentences on webpages and replace them with their Japanese counterparts, using multilingual sentence embeddings for sense disambiguation

ACTIVITIES

CS Pedagogy Committee, CU Boulder — August 2023 - Present

· Acted as liaison between graduate student educators and faculty educators
· Built a TA "exit interview" survey that collects feedback from graduate TAs with the aim of improving pedagogy, course organization, and the graduate student experience
· Researched and presented strategies for retention of underrepresented students in higher education

CTL Lead TA, CU Boulder — August 2022 - May 2024

· Designed and presented interactive workshops on equitable grading (for instructors across departments) and cheating and the role of generative AI (for Computer Science TAs)

- Hosted departmental TA training events and monthly TA engagement meetings
- Collaborated with the other CTL lead to present a Computer Science workshop on teaching with student emotions in mind

UNL Aerospace Club - Rocketry Team   August 2016 - May 2019
- Designed and manufactured high-power rocket according to specifications set by competition each year
- Researched relevant concepts in aerodynamics, physics, and fluid dynamics to optimize rocket design
- Designed and programmed relevant software to specifications set by competition each year

UNL Aerospace Club - Treasurer   May 2018 - May 2019
- Managed funds from different sources for five different teams in club
- Designed and maintained budget
- Communicated with campus financial offices to ensure club's good standing

UNL Pi Mu Epsilon Math Club   August 2017 - May 2019
- Honor given to high-achieving undergraduate Mathematics majors
- Learned from lectures from distinguished mathematicians from across the country

SKILLS

Programming languages:
C++, C, Python, Java, Matlab, Javascript

Tools:
HuggingFace, PyTorch, Lightning, Tensorflow, Keras, Scikit-Learn, Pandas, spaCy, NLTK

Markup Languages:
LaTeX, HTML/CSS