DONGJI FENG

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BIOGRAPHY

Dongji Feng is a Tenure-track Assistant Professor in the Department of Mathematics, Computer Science, and Statistics at Gustavus Adolphus College (GAC), MN. He completed his Ph.D. in 2023 at Auburn University under the supervision of [Dr.Shubhra Kanti Karmaker ("Santu")](#). His research interests include Auto Machine Learning, Natural Language Generation, LLM, Information Retrieval, and Evaluation Metrics. Currently, Dongji is teaching Computer Science courses at GAC such as Intro to Systems, Machine Learning. Dongji mentors five undergraduate students (from Gustavus) to do AI-related research. Dongji also mentors GAC undergraduates in their major studies. In the MCS department, he contributed to designing and restructuring the data science program. Additionally, he serves as a committee member for SHUR funding at GAC and as an advisor for the Gustavus Innovation Program. During his Ph.D., he also served as Teaching Assistant for undergraduate/graduate level Computer Science courses, such as [**Graduate Level**: Information Retrieval, Machine Learning, Computer Game Design & Development] and [**undergraduate level**: Intro to Algorithm, Cloud Computing]. Dongji has journal papers accepted by such as Information Processing and Management (**IP&M**), Transactions on Intelligent Systems and Technology(**TIST**), conference papers accepted by **ACL** and **EMNLP**. Besides, Dongji also served as an Entrepreneur lead for an education start-up funded by the NSF I-Corp program.

EDUCATION

Ph.D Computer Science and Software Engineering, Auburn University — Jan 2019 - Aug 2023
Thesis: *Upper and Expected Value Normalization for Evaluating Information Retrieval and Text Generation Systems*
M.S. Computer Science and Software Engineering , Auburn University — Aug 2016 - Dec 2018
B.S. Computer Science and Software Engineering , Shanxi University — Aug 2012 - May 2016

TEACHING EXPERIENCE

Machine Learning (Undergrad Level) — Fall 2024
Instructor, Department of MCS — *St.Peter, MN*

- Teaching senior students about Machine learning/Deep learning. 10 Lab assignments and 2 term projects are included.

Introduction to Data Science (Undergrad Level) — Fall 2024
Instructor, Department of MCS — *St.Peter, MN*

- Teaching junior students about data science concepts such as advanced data structure, database, SQL, basic machine learning, and data visualization. 8 coding assignments, 10 QA, and 3 midterm exams are included.

Introduction to Computer Science I (Undergrad Level) — Spring 2024
Instructor, Department of MCS — *St.Peter, MN*

- Teaching first-year students about computer science involves introducing them to fundamental concepts such as basic algorithms, common programming structures, and object-oriented programming. 10 Lab assignments, 6 quizzes, and 2 exams are included.

Introduction to Computer System II (Undergrad Level) — Spring 2024
Instructor, Department of MCS — *St.Peter, MN*

- Teaching senior CS students about computer systems involves advanced system concepts such as machine-level programming, hierarchy cache memory, networking, and program optimization. 3 Labs, 5 assignments, 2 team projects are included.

Introduction to Computer System I (Undergrad Level) — Fall 2023
Instructor, Department of MCS — *St.Peter, MN*

- Teaching junior CS students about computer systems involves system concepts such as data representation, data storing, compiler optimization, and performance evaluation. 3 labs, 5 assignments, 2 exams are included.

Introduction to Computer Science I (Undergrad Level) Fall 2023
Instructor, Department of MCS *St.Peter, MN*

- Teaching first-year students about computer science involves introducing them to fundamental concepts such as basic algorithms, common programming structures, and object-oriented programming. 10 Lab assignments, 6 quizzes, and 2 exams are included.

Machine Learning (Senior Undergrad/Graduate Level) Fall 2022
Teaching Assistant, Department of CSSE *Auburn, AL*

- Assisted with teaching Machine Learning courses including leading discussion of 7 Assignment solutions, 2 midterm reviews, 2 midterm solutions, assignment grading, general discussion, and course project management.

Computer Game Design & Development (Senior Undergrad/ Graduate Level) Spring 2022
Teaching Assistant, Department of CSSE *Auburn, AL*

- Assisted with teaching Game theory and techniques for electronic game programming, including grading and discussion of 4 quizzes and 7 programming/written exercises, 2 midterm exams, general discussion, and course project management (3D Unity).

Introduction to Algorithm (Undergrad) Fall 2021
Teaching Assistant, Department of CSSE *Auburn, AL*

- Assisted with teaching algorithm for computational problem solving, including grading and discussion of 5 assignments, 2 midterm exams, one final exam, and course project management.
- Led "Competitive Coding Practice" session including discussion of real-world coding problem solving.

Computer Game Design & Development Fall 2020 and Spring 2021
Teaching Assistant, Department of CSSE *Auburn, AL*

- Same as above

Introduction to Algorithm II (Undergrad) Summer 2020
Teaching Assistant, Department of CSSE *Auburn, AL*

- Assisted with teaching advanced algorithm for computational problem solving, including grading and discussion of 7 assignments, 2 programming assignments, 2 midterm exams, one final exam and course project management.

Cloud Computing (Undergrad) Summer 2020
Teaching Assistant, Department of CSSE *Auburn, AL*

- Assisted with teaching basic cloud computing topics including grading of 7 projects and course project management.

Information Retrieval(Senior Undergrad/ Graduate Level) Spring 2020
Teaching Assistant, Department of CSSE *Auburn, AL*

- Assisted with teaching Information Retrieval courses including leading discussion of 7 Assignment solutions, 2 midterm reviews, 2 midterm solutions, assignment grading, general discussion, and course project management.

Computer Game Design & Development Fall 2019 and Spring 2020
Teaching Assistant, Department of CSSE *Auburn, AL*

- Same as above

RESEARCH EXPERIENCE

Large language model (LLM) prompt design Aug 2023 - Present
Gustavus Adolphus College *St.Peter, MN*

- Utilize TELeR prompt taxonomy to instruct LLM on the Fermi Reasoning Challenge.

  Paper submitted to COLING 2025.
- Utilize TELeR prompt taxonomy to instruct LLM on Comparative Narrative Summarization.

  Paper submitted to COLING 2025.
- Utilize TELeR prompt taxonomy to assist LLM as Meta-Reviewers. Paper submitted to ACL Rolling Review.
- *Keywords*: **LLM**, **Fermi challenge**, **Prompt Design**, Reasoning

AI-driven assistant in Biomedical Research (collaborate with Hormel Institute)   Aug 2024 - Present
Gustavus Adolphus College   *St.Peter, MN*

- Design an AI-driven assistant to enhance user engagement in diet tracking.
- Expose undergrad students to biomedical research.
- *Keywords*: **Biomedical**, *AI-driven assistant*

Evaluation in Natural Language Generation (NLU)   Aug 2024 - Present
Gustavus Adolphus College   *St.Peter, MN*

- Exploring upper expected value normalization in evaluation metric of NLU system
- Expose undergrad students to AI / NLU
- *Keywords*: **NLU**, Evaluation Metric

Hate Speech detection in LLM   Jan 2024 - Oct 2024
Gustavus Adolphus College   *St.Peter, MN*

- Investigating annotator bias in LLM for hate speech detection

  Paper accepted by NeurIPS 2024 SafeGenAI Workshop.
- *Keywords*: **LLM**, **Annotator Bias**, **Hate Speech Detection**

Evaluation in Information Retrieval and Text Summarization, Research Assistant   Aug 2020 - 2023
Big Data and Intelligence (BDI) Lab, Auburn University, Ph.D. Thesis   *Auburn, AL*

Ad-Hoc Unsupervised Concept Annotation, Research Assistant   Jan 2021 - Dec 2021
BDI Lab, Auburn University   *Auburn, AL*

- Exploring (Universal Sentence Encoder) USE for Zero-shot Text Classification. Paper accepted by Asian ACL 2022.
- Exploring Zero-Shot Multi-Label Topic Inference with Sentence Encoders & LLMs. Paper accepted by EMNLP 2023.
- Propose an Ad-Hoc topic tracking: a combination of zero-shot topic categorization and spatio-temporal analysis task. Paper accepted by ACM TIST 2022.
- *Keywords*: **NLU**, **Zero-Shot**, Concept Annotation, **Covid-19**

Exploring and understanding large language model (LLM)   Jan 2023 - Dec 2023
Gustavus Adolphus College

- TELeR: A general taxonomy of LLM prompts for benchmarking complex tasks. Paper accepted by EMNLP 2023.
- Exploring limitations of current LLMs in multi-hop reasoning tasks.
  Paper accepted by Italian Association for AI workshop 2023.
- *Keywords*: **LLMs**, **Prompt**, **Reasoning**

Education Spread by Supporting CAT method, Research Assistant   Jan 2018 - Jan 2020
CURSOR Lab, Auburn University   *Auburn, AL*

- Design mobile tool for computational algorithm thinking (CAT) for game design.
- Led the startup EdSpread. Funded by NSF I-Corps program.
- *Keywords*: **Game Design**, *CAT*, *NSF I-Corps*

PREVIOUS INDUSTRIAL EXPERIENCE

Big Data Engineer Intern   May 2019 – Aug 2019
EVERBRIGHT TECHNOLOGY CO.LTD   *Beijing, CN*

- Reviewed, re-organized and implemented a **Scala** implementation of an offline financial-product recommender system on *Jupyter Notebook*.
- Annotated new features and cleaned data (100,000 items) to test on the local server.

ACADEMIC SERVICES

Committee Member: Swanson-Holcomb Undergraduate Research (SHUR), Gustavus Adolphus College

PC member: Reasoning and Planning for LLMs, ICLR 2025

PC member: AI Agent for Information Retrieval, AAAI 2025

Reviewer: Information Processing & Management (Journal, Impact Factor 7.4)

Reviewer: Expert Systems with Applications (Journal, Impact Factor 7.5)

Reviewer: Natural Language Processing Journal (Journal)

Reviewer: Association for Computational Linguistics (Rolling Review, 2024)

Reviewer: Conference on Empirical Methods in Natural Language Processing (EMNLP)

Reviewer: ACM International conference on information and knowledge management (CIKM)

Reviewer: Conference on Knowledge Discovery and Data Mining (SIGKDD)

Reviewer: Conference on Research and Development in Information Retrieval (SIGIR)

PUBLICATIONS

- Dongji Feng et al. Joint Upper & Expected Value Normalization for Evaluation of Retrieval Systems: A Case Study with Learning-to-Rank methods, Information Processing and Management (IP&M), 2023

- Dongji Feng et al. Exploring Universal Sentence Encoders for Zero-shot Text Classification, AACL-IJCNLP, 2022

- Dongji Feng et al. Ad-Hoc Monitoring of COVID-19 Global Research Trends for Well-Informed Policy Making, Transactions on Intelligent Systems and Technology (TIST), 2022

- Dongji Feng et al.TELeR: A General Taxonomy of LLM Prompts for Benchmarking Complex Tasks, Empirical Methods in Natural Language Processing (EMNLP), 2023

- Dongji Feng et al. Zero-Shot Multi-Label Topic Inference with Sentence Encoders and llms, Empirical Methods in Natural Language Processing (EMNLP), 2023

- Dongji Feng et al. Navigating the Fermi Multiverse: Assessing LLMs for Complex Multi-hop Queries, Seventh Workshop on Natural Language for Artificial Intelligence, 2023

- Dongji Feng et al. OffLanDat: A Community Based Implicit Offensive Language Dataset Generated by Large Language Model Through Prompt Engineering, arXiv, 2024

- Dongji Feng et al. Phone-Based Speech Recognition for Phonetic E-Learning System, HCI International, 2023

- Dongji Feng et al. Designing an ASR-based Interactive Game for Enhancing Speech Therapy to encourage young children to adhere to therapy protocols: A Case Study in User Interface Design, ASEE South section conference, 2023

FUNDING

First-year Student Research Grant: Gustavus Adolphus College, $ 500

Swanson-Holcomb Undergraduate Research Grant: Gustavus Adolphus College, $ 1500

Start-up Funding: Gustavus Adolphus College, $ 4000

Curriculum Development Grant Gustavus Adolphus College, $ 300

CAMPUS SERVICE

Swanson-Holcomb Undergraduate Research Grant community member, Gustavus Adolphus College

Innovation program advisor, Gustavus Adolphus College

Curriculum Development community member, MAC department, Gustavus Adolphus College

GAC Frisbee Club faculty advisor, Gustavus Adolphus College