JENNIFER J. RUSSELL

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Research Interests

Reliable Natural Language Processing (Interpretability, Factuality, Alignment, Ethicality)

Education

Bachelor of Science in Information Science, Statistics   *Aug 2017 - Dec 2020*
Cornell University
Magna Cum Laude
GPA: 3.8

Work Experience

Data Scientist, Bank of America   *July 2021 – Present*
Erica Conversational AI

Global Technology Summer Analyst, Bank of America   *May 2020 - Aug 2020*

Data Analyst Intern, Corning Incorporated   *May 2019 - Aug 2019*

Research Experience

Abstractive Dialogue Summarization
- Creating an Issue-Resolution Summarization system for call center calls with the issue a customer is calling about and how the agent resolved a call.

Title Generation
- Research methods of extreme summarization to provide short descriptions for the purpose of extracting a title of a text.

Semantic Role Labeling
- Designed new semantic role schema specifically for chatbots.
- Demonstrated improved contextual understanding of chatbot when using the semantic role system to gain a better underlying understanding of language.

Real-time Speech-to-Text
- Leveraging ASR models to transcribe calls for call-center agent assist platform.

Retrieval-Augmented Question Answering
- Leveraging retrieval to create smart assistant to help customer service agents find relevant information.

Machine Translation
- Creating Spanish version of Erica by using automatic translation to create English version of utterances.

Teaching

Teaching Assistant, Introduction to Data Science (INFO/CS 2950), S'20 & F'20
Teaching Assistant, Introduction to Computing Using Python (CS 1100), S'19 & F'19

Membership

Women in Computing at Cornell (2017-2020)
Information Science Student Association (2018-2020)
Women in Data Science at Bank of America (WiDS) (2021 - present)
Society of Women Engineers (2023 – present)

Leadership/Service

Executive Board Member, Women in Data Science at Bank of America (2022 - present)
Program Lead, Girls Who Code of North Texas Summer Immersion Program (2023 - present)
Mentor, The Coding School (2021 - 2022)

Patents

1. "*Selection System for contextual prediction processing versus classical prediction processing*". US Patent Application No. 17/993,048
2. *"Action-topic Ontology"*. US Patent Application No. 17/993,038
3. *"Semantic frame builder"*. US Patent Application No. 17/993,029
4. **"Dynamic semantic role classification**". US Patent Application No. 17/993,019
5. *"Dual-pipeline utterance output construct"*. US Patent Application No. 17/993,013
6. *"Iterative Processing System for Small Amounts of Training Data"*. US Patent Application No. 18/199,073
7. *"Multilingual Chatbot"*. US Patent Application No. 17/993,063
8. "*Performance Optimization for Real-time Large Language Speech-to-text Systems*". US Patent Application No. 18/204,981
9. *"Call center voice system for use with a real-time complaint identification system"*. US Patent Application No. 18/144,925