Keer Xu

Linkedin| keerx@andrew.cmu.edu | 781-354-8566 | Personal Website

EDUCATION

Carnegie Mellon University Pittsburgh, PA
Master of Science in Intelligent Information Systems (Language Technologies, Computer Science) Aug 2024 - May 2026
Relevant Courses: Coding Bootcamp, Advanced NLP, Introduction to Machine Learning

Brandeis University Waltham, MA
Bachelor of Science in Computer Science, Applied Math | GPA: 3.88 / 4.0, Dean's List every semester Jan 2021 - May 2024
Relevant Courses: Fundamentals of Software Engineering, Data Structures and Computing, Statistical Approaches to NLP

SKILLS

Programming Language: Java, HTML, CSS, Python, JavaScript
Frameworks: React Native, Flask, PyTorch,

EXPERIENCE

Abstract Meaning Representation (AMR) Project | Waltham, MA
Research Assistant, advised by Prof. James Pustejovsky Jan 2023 - May 2024
-Annotated 486 AMR sentences (using AMRguideline and UMR writer), developed rules for adapting AMR graphs to recipe data, and built baseline models for parsing and text-to-GLAMR conversion with strong evaluation results (publication on COLING).
- Extended AMR with structured subevents and argument property changes using Generative Lexicon Theory and VerbNet.

Conditional Semantic textual similarity (C-STS) Project | Waltham, MA
Research Assistant, advised by Prof. James Pustejovsky Jan 2023 - May 2024
- Applied QA to generate high-quality answers to automatically detect annotation errors on original C-STS dataset with over 80% F1 score, improving C-STS performance under supervised and prompting models (ACL publication) .
- Introduced typed-feature structure (TFS) for C-STS, provided a linguistic foundation for constructing semantically informed conditions, enhancing conditionality annotation and improving task accuracy.
- Identified and resolved annotation errors in 55% of instances, improving dataset quality and enhancing task evaluation.

Undergraduate Teaching Assistant | Waltham, MA Jan 2023 - May 2024
- Designed programming assignments and recitation slides for Problem Solving in Python class with over 70 students to enhance their interests and understandings.
- Assisted in answering students' questions during office hours and improved their academic performance by 10%.

PROJECTS

SWiT: Emoji Annotation | Brandeis University | Waltham, MA Apr 2024 - May 2024
- Developed robust annotation guidelines to ensure data quality and consistency, facilitating accurate analysis of emoji usage.
- Processed and refined guidelines based on annotator feedback, enhancing the reliability and clarity of the annotation process.
- Trained a model to infer emoji connotations from contextual usage, providing insights into emoji interpretation.

Emoji Generator for Texts | Brandeis University | Waltham, MA Apr 2024 - May 2024
- Compiled and formatted about 860,000 data for 43 emojis from Kaggle, ensuring high-quality CSV outputs for analysis.
- Trained a high-performing BERT-based model and achieved an evaluation accuracy of 0.699 in multi-label classification across 43 candidate labels, enhancing emoji prediction capabilities.
- Developed an interactive Streamlit website, which integrated the database and trained model, allowing users to input sentences and receive emoji predictions, improving user engagement and accessibility.

HackMIT 2022 (Python, Flask, Figma) | MIT | Cambridge, MA Oct 2022
- Developed and deployed a webpage featuring integrated transcription, summarization, and question generation, significantly improving user accessibility to information.
- Designed a website offering audio-to-text translation, summary generation, and Q&A generation using transformers and HEPOS, resulting in a more efficient and interactive user experience.

Branda App Design (React Native, Figma) | Brandeis University | Waltham, MA Apr 2022 - May 2023
- Created a user-friendly layout to display Brandeis events and streamline access to relevant websites, enhancing event visibility.
- Optimized frontend performance and user experience using Figma and React Native, leading to a more intuitive app interface.