

FUXIAO LIU

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EDUCATION

University of Maryland - College Park

2021.8-Present

Ph.D in Computer Science

University of Virginia

2019.8-2021.5

M.S. in Computer Science

Beijing University of Posts and Telecommunications

2015.9-2019.6

B.S. in Telecommunications Engineering with Management

PUBLICATIONS

Fuxiao Liu, Chris Tensmeyer, Hao Tan, Ani Nenkova "Understanding Intra-Document Image-Text Linking via Contrastive Learning", **Under Review**.

Fuxiao Liu, Yaser Yacoob, Abhinav Shrivastava "TwtrDetective: Fact Extraction and Verification on Short Video Platforms", **Under Review**.

Fuxiao Liu, Yinghan Wang, Tianlu Wang, Vicente Ordonez "Visual News: Benchmark and Challenges in News Image Captioning", **EMNLP' 2021** (*Oral presentation*) .

Fuxiao Liu, Ming Wu "Semantic Segmentation with Light Neural Networks", **Bachelor Thesis**.

ACADEMIC EXPERIENCE

Intra-Document Image-Text Linking

Adobe Document Intelligence Lab, California, USA

2022.5-Present

Advisor: Chris Tensmeyer, Hao Tan, Ani Nenkova

- We apply the contrastive learning algorithm to determine the document-internal connections between specific images and specific document sentences.
- Our model will be applied to Adobe Liquid mode to improve the reading experience of users on the smartphone.

Fact Extraction and Verification on Short Video Platforms

University of Maryland, College Park, USA

2021.11-2022.5

Advisor: Yaser Yacoob, Abhinav Shrivastava

- We introduce COVID-VTS, a fact-checking dataset for short video platforms.
- We propose an effective approach to automatically generate large-scale verifiable, trustworthy as well as misleading claims rather than employing human annotators.
- We propose TwtrDetective, a new explainable fact-checking framework for the short video platform.

Entity-aware News Image Captioning

University of Virginia, Charlottesville, VA, USA

2020.4-2021.3

Advisor: Vicente Ordonez

- Introduced VisualNews, the largest and most diverse news image captioning dataset.
- Design a model based on the Transformer architecture to improve the generation of named entities.
- Experimented on two datasets, increased CIDEr score by 10+ points with much fewer parameters (93M to 200M) than baseline methods.

Graph Embedding with Role Classification

University of Virginia, Charlottesville, VA, USA

2019.9-2019.12

Advisor: Jundong Li

- Designed an unsupervised model to learn the role representations in given graphs.
- Employed three attention layers to extract global context information.
- Experimented on American Air Traffic Network dataset, increased the accuracy by 0.03 compared to the baseline algorithms.

Semantic Segmentation with Light Neural Networks

Beijing University of Posts and Telecommunications, Beijing, China

2018.3-2019.4

Advisor: Ming Wu

- Discovered the importance of the lightweight models for semantic segmentation.
- Experiments with different lightweight modules with the Conditional Random Field algorithm on two remote sensing datasets.
- Developed a cost-efficient encoder-decoder network, which achieved higher accuracy and compressed the model size over 5 times.

INDUSTRY EXPERIENCE

Intra-Document Image-Text Linking, *Research Intern*

2022.5-Present

Adobe, California, USA

- We apply the contrastive learning algorithm to determine the document-internal connections between specific images and specific document sentences.
- Our model will be applied to Adobe Liquid mode to improve the reading experience of users on the smartphone.

Wireless Communication Project, *Software Intern*

2018.7-2018.8

ZTE Corporation, Beijing, China

- Practiced the technical skills such as LTE Optimization, XPON Practice and WLAN Practice.
- Conducted hand-on experiments of data communication and other relevant ones.

Chatbot for Ticket Reservation, *Software Intern*

2017.12-2018.3

Juzi Bot, Beijing, China

- Established Application Programming Interface services for two third-party Natural Language understanding platforms by using Node.js.
- Implemented machine learning models to achieve semantic recognition in chatbot dialogues.

AWARDS

Dean's Fellowship (UMD)

2021

Academic Excellence Fellowship (UVa)

2020

Bachelor of Science with Honors (BUPT)

2019

Meritorious Winner in MCM/ICM Interdisciplinary Contest in Modeling

2018

PROFESSIONAL SERVICE

Teaching Assistant: Introduction to Data Science (CMSC320)

2021.8-Present