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 *"Linking Figures and Main Body Text in Documents and Related UX feature in Reflowed Documents"*, **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

Linking Figures and Main Body Text in Documents
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 Date Science (*CMSC320*) *2021.8-Present*