

# FUXIAO LIU

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## EDUCATION

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| <b>University of Maryland - College Park</b><br>Ph.D in Computer Science  | <i>2021.8-Present</i> |
| <b>University of Virginia</b><br>M.S. in Computer Science   | <i>2019.8-2021.5</i>  |
| <b>Beijing University of Posts and Telecommunications</b><br>B.S. in Telecommunications Engineering with Management | <i>2015.9-2019.6</i>  |

## PUBLICATIONS

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**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 "COVID-VTS: Fact Extraction and Verification on Short Video Platforms", **EACL 2023**.

**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

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### Linking Figures and Main Body Text in Documents

Adobe Document Intelligence Lab, California, USA *2022.5-2022.8*  
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

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### Vision Language Pretraining, *Research Intern*

2022.11-2023.5

Microsoft (*Pactera*), Washington, USA

- We introduce an effective method to improve the knowledge transfer ability of vision-language models cross different domains.

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

2022.5-2022.8

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.

## AWARDS

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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

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**Teaching Assistant:** Introduction to Data Science (*CMSC320*)

2021.8-Present