

# FUXIAO LIU

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## EDUCATION

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### University of Virginia

2019.8-present

M.S. in Computer Science

Overall GPA: (3.75/4.0)

### Beijing University of Posts and Telecommunications/

2015.8-2019.6

### Queen Mary University of London(Joint Bachelor Programme)

Double B.S. in Telecommunications Engineering with Management

Overall GPA: (3.80/4.0)

## PUBLICATION AND MANUSCRIPTS

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[1] **Fuxiao Liu**, Yinghan Wang, Tianlu Wang, Vicente Ordonez. "VisualNews : Benchmark and Challenges in Entity-aware Image Captioning". *Under Review, 2020*

[2] **Fuxiao Liu**, Ming Wu. "The Research of Semantic Segmentation with Light Neural Networks". *Bachelor Thesis, 2019*

## RESEARCH EXPERIENCES

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### Entity Aware News Image Caption

University of Virginia, Charlottesville, VA, USA

2020.3-present

*Vision, Language, and Learning lab*

Research Assistant, Advisor: Professor Vicente Ordonez

- Introduced VisualNews, the largest and most diverse news image captioning dataset.
- Proposed VisualNews-Captioner, a captioning method for news images, showing superior results with fewer parameters than competing methods.
- Designed Entity-Aware module and Entity-Guide attention layer, effectively improving the generation of named entities, increasing CIDEr by 10+ and 5+ points.

### Evaluation of Explainable Recommendation

University of Virginia, Charlottesville, VA, USA

2020.9-present

*Human-Centric Data Mining Group*

Research Assistant, Advisor: Professor Hongning Wang

- Implemented supervision methods to extract high quality feature nouns from Yelp and Amazon datasets.
- Reproduced existing personalized explainable models according to the papers.
- Discovered that non-personalized explanations can perform better than personalized explanations in terms of existing evaluation metrics.

### Deep Learning Network Embedding with Regular Equivalence

University of Virginia, Charlottesville, VA, USA

2020.3-2020.5

Research Assistant, Advisor: Professor Jundong Li

- Designed an Auto-Encoder based on the attention mechanism and LSTM to learn structural information from the multi-hop neighborhoods.
- 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

*Key Laboratory of Pattern Recognition and Intelligence System*

Research Assistant, Advisor: Professor Ming Wu

- Discovered the importance of the light models for devices with very limited computing power.
- Experiments with different lightweight modules with CRF in the Encoder-Decoder model on two Remote Sensing datasets.
- Developed a novel cost-efficient Fully Convolutional Network, which achieved better accuracy with much smaller model size(17.2M) than baseline models(100+ M).

## AWARDS AND ACHIEVEMENTS

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<b>2019-2020</b>	Academic Excellence Fellowship of UVA
<b>2019</b>	First Class Outstanding Graduate of BUPT
<b>2018</b>	Meritorious Winner in MCM/ICM Interdisciplinary Contest in Modeling
<b>2016-2018</b>	Second-class Scholarship of BUPT

## TECHNICAL STRENGTHS

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<b>Programming Languages</b>	Proficient in Python, Java
<b>Research Skills</b>	Familiar with state-of-the-art machine learning and deep learning, Tensorflow, PyTorch