# 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**, 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

**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.

**Evaluation of Explainable Recommendation**
University of Virginia, Charlottesville, VA, USA *2020.9-2020.12*
Advisor: Hongning Wang

- Implemented supervisions to extract high-quality feature words from a crowdsourcing platform.
- Developed a hierarchical model based on Bayesian Personalized Ranking algorithm to predict the features of an item that attract potential users..

**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

**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*