

Nick McKenna

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Summary

- **PhD in NLP** (Finishing Oct 2023)
- Seeking an AI / ML Scientist position starting autumn 2023.
- Ex-Applied Science at Amazon. Former Product Manager.
- 6 papers in NLP with 4 published in ACL-related venues.
5 years experience in ML + NLP.
2 years professional experience.
- **Research Experience:** commonsense inference, QA, Knowledge Graphs, LLMs and factuality + hallucination.

Education

THE UNIVERSITY OF EDINBURGH

Ph.D. Informatics Expected Oct 2023
Institute for Language, Cognition, and Computation
Thesis: *Inference of Natural Language Predicates in the Open Domain*

Advisor: Mark Steedman

M.Sc. Artificial Intelligence, *Distinction* 2019

BROWN UNIVERSITY

B.Sc. Computer Science 2017

Professional Experience

Applied Scientist PhD Intern, Amazon, Alexa AI Cambridge, UK Jun – Oct 2022

- Researched fully-differentiable and explainable question-answering models for Alexa.
- Developed a robust neural QA model using a Differentiable Knowledge Graph which can answer natural user questions without requiring retraining when the KG is updated.
Published in ACL 2023: SustainNLP workshop as “KGQA Without Retraining”.

Product Manager, TapToBook (Startup) Miami, USA 2017 – 2018

- Identified business needs, researched and designed solutions, and prioritized the product roadmap for the 10-person development team (spanning web, iOS, and Android).
- Transformed the core business model with innovative technologies and user experiences to find product-market fit, with focus on scalable AI solutions.
- Scaled the platform to national brands including Planet Fitness, leading to profitability.

Product Management Intern, Yelp San Francisco, USA Jun – Aug 2016

- Grew engagement by 13% on business review highlights by surfacing user-relevant information.

Engineering Intern, Yelp San Francisco, USA May – Aug 2015

- Developed a new tool for restaurant hosts to create guest reservations, reducing time spent on this task by 88% (for *Yelp Reservations* on iPad, an OpenTable competitor).

Skills

- **Modeling:** Machine Learning for extraction of structured knowledge from text, answering user questions, summarization, etc. including with Neural Networks and LLMs like LLaMA & GPT-4.
- **Languages:** Python, Java, Swift/iOS, C, SQL+Splunk
- **Tools:** PyTorch, Huggingface Transformers, AWS, Git, Jupyter, numpy, scikit, LaTeX

Publications

Preprints

Nick McKenna* and Tianyi Li*; Liang Cheng, Mohammad Javad Hosseini, Mark Johnson, and Mark Steedman. *Sources of Hallucination by Large Language Models on Inference Tasks*. ArXiv, 2023.

↪ [Paper Link](#)

Nick McKenna and Mark Steedman. *Smoothing Entailment Graphs with Language Models*. ArXiv, 2022.

↪ [Paper Link](#)

Conference Papers

Nick McKenna, Liane Guillou, Mohammad Javad Hosseini, Sander Bijl de Vroe, Mark Johnson, and Mark Steedman. *Multivalent Entailment Graphs for Question Answering*. EMNLP, 2021.

↪ [Paper Link](#)

Nick McKenna and Mark Steedman. *Learning Negation Scope from Syntactic Structure*. *SEM, 2020.

↪ [Paper Link](#)

Workshop Papers

Nick McKenna and Priyanka Sen. *KGQA Without Retraining*. Simple and Efficient Natural Language Processing (SustaiNLP) at ACL, 2023.

↪ [Paper Link](#)

Sander Bijl de Vroe* and Liane Guillou*; Miloš Stanojević, **Nick McKenna**, and Mark Steedman. *Modality and Negation in Event Extraction*. Challenges and Applications of Automated Extraction of Socio-political Events from Text (CASE) at ACL, 2021.

↪ [Paper Link](#)

Teaching

Graduate TA at the University of Edinburgh

Accelerated Natural Language Processing (M.Sc. course) 2019 – 2021

Natural Language Understanding and Machine Translation (M.Sc. course) 2020 – 2022

Undergraduate TA at Brown University

Computational Linguistics 2017

Computer Graphics 2016

Computer Architecture 2015

Scientific Service

Talk Panelist

“Getting into NLP Research” at NAACL 2021

Conference Referee

ACL 2023

EACL 2023

EMNLP 2021, 2023

COLING 2020

STARSEM 2020, 2021

Awards & Honors

Huawei Ph.D. Scholarship Award 2019

Outstanding M.Sc. Dissertation: ↪ [“Learning Negation Scope Semantics with Structure”](#) 2019

Extracurricular

Sponsorship Organizer, Hack@Brown 2015 – 2017

Raised \$45,000 for Brown’s annual hackathon from Google, Microsoft, TwoSigma, and others.

Independent iOS App Developer, Nighttime Software 2012 – 2016

2048: *Two to Infinity* was downloaded 16,000x and ranked top 100 strategy games, USA and Canada.