

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 publications in NLP.
5 years of experience in ML + NLP.
2 years of professional experience.
- **Research Experience:** commonsense reasoning, QA, Knowledge Graphs, Generative LLMs and 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 neural QA model which answers natural user questions using a Differentiable Knowledge Graph, which may be updated with new facts without any retraining.
Published in ACL 2023: SustainLP 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 automated decision-making: extracting structured knowledge from text; answering user questions; generative modeling of tasks using large models, etc.
- **Languages:** Python, Java, Swift/iOS, C, SQL+Splunk
- **Tools:** PyTorch for Neural Networks and LLMs like LLaMA & GPT-4, AWS, Git, Numpy, Scikit

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](#)

Conference Papers

Nick McKenna, Tianyi Li, Mark Johnson, and Mark Steedman. *Smoothing Entailment Graphs with Language Models*. AACL, 2023.
 In Preparation. ↪ [Preprint Link](#)

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
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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: <i>Learning Negation Scope Semantics with Structure</i> ↪ Link	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: <i>Two to Infinity</i> was downloaded 16,000x and ranked top 100 strategy games, USA and Canada.	