NICK McKENNA

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CURRENTLY: *Master's student in Artificial Intelligence and researcher in Natural Language Processing. Linguistics and big data enthusiast. Seeking opportunities for Fall 2019.*

EDUCATION

UNIVERSITY OF EDINBURGH
M.Sc. Artificial Intelligence, *Aug 2019*
Natural Language Processing Specialism
Edinburgh, United Kingdom

BROWN UNIVERSITY
B.Sc. Computer Science, *2017*
Providence, RI, United States

SELECTED COURSEWORK

Accelerated NLP · NLU & Translation
Machine Learning · Deep Learning
Formal Semantics and Pragmatics

RESEARCH EXPERIENCE

Research in Computational Semantics
Advised by Prof. Mark Steedman. *Oct 2018 - Present*

My work is in the entailment project, which seeks to build a graph of predicates that entail, paraphrase, and presuppose each other using machine learning methods.

- **Master's dissertation** on a novel approach for negation detection, a subtask in semantic parsing.
- Concurrent research on detection of presuppositions using negated relations in the entailment graph.

NLP+CogSci Research Blog

Research on word representation semantics.
Read it here: **nmckenna.me/research**

Brown Computational CogSci Reading Group
Led by Prof. Ellie Pavlick. *Summer 2018*

Reviewed current research in language processing and models of concept learning.

SKILLS

- Linguistic analysis of syntax, semantics, and pragmatics; and design of practical computer models for automatic language understanding.
- Data analysis with SQL & Python numerical libraries.
- Skilled with ML frameworks: PyTorch, TensorFlow, and Keras; Proficient in Python, C++, Java, Swift/iOS.

IMPACT

Teaching Assistant, Brown *2015 – 2017*

Hands-on with 570 students over 4 Computing courses. Designed curriculum, graded work, and held office hours.

Sponsorship, Hack@Brown *2015 – 2017*

Raised $45,000 for Brown's annual hackathon from partners Google, Microsoft, TwoSigma, and more.

PROFESSIONAL EXPERIENCE

TAPTOBOOK *Product Manager* *June 2017 – Aug 2018*

- Directed the product development roadmap. Identified business needs, researched solutions, and prioritized work for the 10-person development team.
- Overhauled the core business model with new technologies and user experiences, separating TTB from competing products. The company is now profitable and growing rapidly.
- Analyzed product and business data for strategic development initiatives. Directed and launched several AI-powered features to maximize our customers' productivity and revenue.

YELP *Product Management Intern* *Summer 2016*

- Experimented with ML Group, growing review highlights engagement by 13%. Conducted extensive data analysis in SQL for product planning.

YELP *Engineering Intern* *Summer 2015*

- Built research-driven manager for Yelp Reservations on iPad, reducing restaurant hosts' time spent by 88%.

PAST PROJECTS

Document Summarizer, Python & TensorFlow

Algorithm for extractive summarization using a deep convolutional neural network to identify the most sentimental sentences, based on Google DeepMind paper.

Deep Q-Network for Virtual Soccer, Python & PyTorch

Reinforcement algorithm with neural Q-function approximation for player control.

High-Frequency Trading Agent, Java

Automatic trading algorithm for a simulated market. Traded securities with 14 agents for net-positive, 2nd best outcome in the competition.

StingRay Renderer, OpenGL & C++

Real-time GPU raytracer that renders interactive 3D scenes using alternative on-device caching to accelerate render time.

Two to Infinity, iOS *16,000 Downloads*

Mobile game based on 2048. Ranked Top 100 Strategy Games in US and Canada.