Zachary Horvitz

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EDUCATION

2019-2020 **Master of Science**
GPA 4.0/4.0
Computer Science
Brown University

2015-2019 **Bachelor of Arts**
GPA: 3.96/4.0
Computer Science & Anthropology
Brown University

SKILLS

LANGUAGES Python • Matlab • Scala • Java
C/C++ • LaTeX • SQL • Javascript

TOOLS PyTorch • TensorFlow • Keras
Caffe • Horovod • Docker • Scikit-Learn
NLTK • Hugging Face • SpaCy
OpenCV • Pandas • NumPy • CPLEX
AWS EC2, S3, DynamoDB, MTurk

PUBLICATIONS

Purdy, E., Mulyar, A., Jha, D., Allen, J.Z., Horvitz, Z. (2021). Automated Generation Of Customized Impression Generation For Radiology Reports Through Natural Language Processing (NLP) Model. *RSNA*.

Parikh, N., Horvitz, Z., Srinivasan, N., Shah, A., Konidaris, G.D. (2020). Graph Embedding Priors for Multi-task Deep Reinforcement Learning. *NeurIPS 2020, 4th KR2ML workshop*.

Horvitz, Z., Do, N., Littman, M.L. (2020). Context-Driven Satirical News Generation. *ACL, Proceedings of the second workshop on figurative language processing*, 40-50.

Siegel, N., Horvitz, Z., Levin, R., Divvala, S.K., Farhadi, A. (2016). FigureSeer: Parsing Result-Figures in Research Papers. *ECCV*.

TEACHING

COURSE **Deep Learning** (*Brown University*)
POSITION Head TA (2019), TA (2018)

As graduate Head TA for Prof. Daniel Ritchie's 350+ person class, I co-managed a staff of 32 TAs and wrote projects on topics ranging from transformers to policy gradient methods. We managed the migration to TensorFlow2.0, addition of conceptual questions, and introduction of new material.

COURSE **Comp. Linguistics** (*Brown University*)
POSITION TA (2019)

As undergraduate TA for Prof. Eugene Charniak's seminar, I held office-hours and graded assignments on topics including parsing, NMT, and contextual embeddings.

EXPERIENCE

FALL 2020 - PRESENT

Rad AI
Senior Machine Learning Engineer

I research, engineer, and deploy personalized summarization models to radiologists working in clinical settings. Additionally, I have built-out internal tools (including a sequence-to-sequence modeling library that halved inference times), fielded models for error correction, and taught machine learning principles. My work, which includes overseeing large-scale distributed trains and hyperparameter tunes, has reduced training times by 80 percent, improved clinical accuracy, and enabled scaling to different practices.

SUMMER 2020 - FALL 2020

Codecademy
Contributor: Deep Learning with TensorFlow

I wrote and reviewed articles, informational videos, and assignments to build out Codecademy's first deep learning course.

SPRING 2020 - FALL 2020

Intelligent Robot Lab (*Brown University*)
Graduate Research

Our research centered on graph-based [linguistic] priors for multitask learning. Our models were able to generalize behavior to hundreds of tasks and objects, sample-efficient, and robust to noisy knowledge graphs. We were advised by Dr. George Konidaris.

FALL 2019 - SUMMER 2020

RLAB (*Brown University*)
Graduate Research

Advised by Michael Littman, we built out a novel retrieval pipeline for the real-world textual context behind news stories, and demonstrated successful transfer-learning from abstractive summarization to satirical headline generation.

SPRING/SUMMER 2015, SUMMER 2018

Allen Institute for Artificial Intelligence
Research Intern

I developed an ELMo based entity-augmented neural architecture with mental state inference for common-sense story generation. Advised by Yejin Choi, Maarten Sap, and Antoine Bosselut at Univ. of Washington. Previously (2015), I began working with AI2 as a senior in high school, and then as a research intern over the summer. Our novel application of convolutional neural networks became part of a successful solution for classifying and parsing data in academic figures.

SUMMER 2016

ACLU of Massachusetts
Tech for Liberty Team Intern

As a summer intern, I analyzed newly released criminal policing data and built internal tools to measure racial disparities in lower-level arrests and stop-and-frisk.

SUMMER 2014

The Daniel Lab
Research Intern

As part of research into hawk moth behavior and learning, I developed and integrated computer vision-based control for the moths in VR.

AWARDS

2020 **CS2951-O Transport Logistics, 1st Place**
Brown University

2019 **Best in General Anthropology**
Brown University

2017 **CS1400 TRON Competition, 2nd Place**
Brown University

2014 **National Merit Commended Scholar**

ACTIVITIES

2016-2020 **Senior Staff Writer/Staff Writer**
thenoser.com/staff/zachary-horvitz
The Brown Noser

2017-2019 **Associate Director/Associate, Data Board**
Brown Political Review

2017-2018 **After-School Mentoring**
Brown Elementary After School Mentoring

2016-2017 **E-commerce/Clothing Recommender Engine**
Empor

2016 **SAT Math Tutor**
Self-Employed