

ALEX HEYMAN (they/them)

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GitHub: AlexHeyman

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Graduate student at York University

Education

York University (York U)

2023-present

Lassonde School of Engineering

PhD in Electrical Engineering & Computer Science

York U

2021-2023

Lassonde School of Engineering

Master of Sciences in Computer Science

University of Toronto (U of T)

2017-2021

Faculty of Arts & Science

Honours Bachelor of Science with Specialist in Computer Science with Focus in AI, Major in Cognitive Science, Minor in Philosophy

Innis College

University of Chicago Laboratory Schools (UCLS)

9th through 12th grade, 2013-2017

Honours and Awards

York U (MSc)

Vector Scholarship in Artificial Intelligence (2021-22)

Lassonde Graduate Entrance Scholarship (2021)

AI-EGS (AI Systems: Engineering, Governance, and Society) Trainee Funding Award (2022)

U of T

President's Scholar of Excellence

Innis College Exceptional Achievement Award (2019)

Innis College Alumni Association Scholarship (2020)

UCLS

National Merit Finalist

Skills

Machine learning

- Experience with TensorFlow, PyTorch, and scikit-learn
- York U EECS 6322 – Neural Networks and Deep Learning
- York U EECS 6127 – Machine Learning Theory
- York U EECS 6327 – Probabilistic Models and Machine Learning
- York U EECS 6415 – Big Data Systems
- U of T CSC413 – Neural Networks and Deep Learning
- U of T CSC412 – Probabilistic Machine Learning
- U of T CSC311 – Introduction to Machine Learning

General computer programming

- High familiarity with Java, Python
- Moderate familiarity with C, Lua, JavaScript
- Some familiarity with C++

Video game design and programming

- 10+ years of amateur experience

Web design, including use of HTML, CSS, and JavaScript

Mathematics up through linear algebra (U of T MAT223 & MAT224)
and multivariable calculus (U of T MAT237)

Symbolic logic (University of Chicago PHIL20100, U of T CSC240)

Publications

Information Utilitarianism

Published in *Perspectives on Ethics* (Journal of the University of Toronto Centre for Ethics)

Presented at “Ethics, Intersections, Reflections: C4E Undergraduate Research Conference” on 2021-07-17

Conference description, link to paper, and link to 15-minute talk:

<https://c4ejournal.net/2021/07/23/ethics-intersections-reflections-c4e-undergraduate-research-conference-2021-c4ej-33/>

Selected projects

MSc thesis research with Prof. Joel Zylberberg: Neural network pruning comparison across multiple granularities

Code link: <https://github.com/AlexHeyman/GranularityPruning>

Publication forthcoming

Research with Prof. Jimmy Ba: Population-based training of neural networks for TensorFlow
Code link: <https://github.com/AlexHeyman/PopulationBasedTraining>
Undergraduate 2nd year

Cell2D – Java 2D game development library
Website: <http://www.cell2d.org/>
Development began 12th grade; ongoing/intermittent

Echo – short puzzle-platforming video game made in 38 hours
Website: <http://alexheyman.itch.io/echo>
Undergraduate 1st year

Activities

Undergraduate Fellow at the U of T Centre for Ethics – Undergraduate 4th year

Politics section editor at the UC Gargoyle student newspaper – Undergraduate 4th year

Office hour holder at the U of T Cognitive Science and Artificial Intelligence Students' Association
– Undergraduate 2nd – 4th year

Member of the U of T Ethics Club – Undergraduate 2nd – 3rd year

Member of the U of T Machine Intelligence Student Team – Undergraduate 1st year