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Toronto, Canada



shalev.ca

SKILLS

Leadership

AI & Machine Learning

Entrepreneurship

Creativity

Writing

Programming

Communication and
Public Speaking

Critical Thinking and
Problem Solving

INTERESTS

AI

Neuroscience

General Relativity

Latin

Causality

Cellular Automata

Mathematical Proofs

Ancient Greek and
Roman Civilization

Ensuring a Positive
Future for Humanity

Shalev Lifshitz

AI Researcher & Entrepreneur

18 years old, Canadian, and striving to develop the future of technology. My goal is to spark the next wave of human innovation and help humanity reach a new evolutionary step.

EDUCATION

Specializing in Computer Science, Minor in Math and Psychology University of Toronto

09/2020 - Present

PROJECTS

AI algorithms to automatically understand CT scans

Claronav

01/2020 - Present

Toronto, Ontario

I have been creating AI algorithms to improve surgical navigation at Claronav, a surgical navigation startup in Toronto. Instead of a human having to locate and annotate structures in CT scans, I teach machines to figure out the location of these structures on their own. When I began, there was just the raw CT data and now there is an intelligent machine that has learned to understand these CT scans in less than half a second!

New image search technique to improve cancer diagnosis

University of Waterloo

06/2019 - Present

Waterloo, Ontario

For the past year, I have been creating a new histopathology image search algorithm to speed up and improve the diagnosis of cancer and other diseases. I've been performing this research at the University of Waterloo KIMIA Lab (a global leader in histopathology image search) and am finalizing the research paper now!

Creating neural networks to behave more like the human brain

University of Waterloo

09/2018 - 09/2019

Waterloo, Ontario

While in high school, I worked with the University of Waterloo Prof. Hamid Tizhoosh to design a new type of neural network that aims to behave more like the human brain. I implemented and developed the algorithm from scratch using only base mathematical functions. To do so, I used Linear Algebra, Calculus, and other university-level mathematics. I spent over 400 hours implementing our novel neural network from scratch while maintaining academic excellence (95+ GPA) and working on another project at the Hospital for Sick Children's AI Lab (Toronto). The research is published in our paper (listed below) which appeared in the 9th International Conference on Image Processing.

Computer vision algorithms for faster and better diagnosis

The Hospital for Sick Children

06/2018 - 12/2019

Toronto, Ontario

I worked on AI and Computer Vision software that uses cell images to expedite the diagnostic and drug discovery processes at The Hospital for Sick Children in Toronto.

PUBLICATIONS

Subtractive Perceptrons for Learning Images: A Preliminary Report (09/2019)

In this preliminary work, we define the subtractive Perceptron (*s-Perceptron*), a graph-based neural network that delivers a more compact topology to learn one specific task. <https://arxiv.org/abs/1909.12933>

SPEAKING ENGAGEMENTS AND PORTFOLIO

Please visit my website at shalev.ca for videos of my speaking engagements and my portfolio. [↗](#)

AWARDS & ACHIEVEMENTS

C. David Naylor Scholarship from the University of Toronto (\$20 000)

Winning Pitch at the McMaster University Fall 2018 Innovation Sprint

Best Startup at SAGE Canada