

Shaurya Seth

sseth@ualberta.ca | (825) 461-6526 | shauryaseth.com

EDUCATION

UNIVERSITY OF ALBERTA

BSc IN PHYSICS

Apr 2023 | Edmonton, AB

Department of Physics

GPA: 3.2 / 4.0

LINKS

Twitter:// @shauseth

Github:// shauseth

LinkedIn:// shauseth

COURSEWORK

GRADUATE

Reinforcement Learning (Rich Sutton)

UNDERGRADUATE

Reinforcement Learning (Martha White)

Quantum Mechanics

General Relativity

Particle Physics (Roger Moore)

Electromagnetism

Thermodynamics

Industrial Organization

Energy Economics

SKILLS

PROGRAMMING

Languages:

Python • SwiftUI • \LaTeX

Libraries:

PyTorch • NumPy • Pandas

Scikit • OpenCV • Jupyter

Matplotlib • Plotly

SOFTWARES

Solidworks • COLMAP • XCode

Excel • Illustrator

EXPERIENCE

48HOUR DISCOVERY | INTERN

Apr 2019 – Apr 2019 | Edmonton, AB

Integrated relational molecular databases.

RESEARCH

NOBES RESEARCH GROUP | VOLUNTEER

Apr 2022 – Jul 2022 | Edmonton, AB

Worked with **David Nobes** to analyze fuel cores for nuclear microreactors.

RLAI LAB | UNDERGRADUATE RESEARCHER

Apr 2021 – Sep 2021 | Edmonton, AB

Worked with **Martha White** and **Adam White** to optimize a **water treatment plant** using reinforcement learning.

DERDA RESEARCH GROUP | UNDERGRADUATE RESEARCHER

Apr 2019 – Jun 2021 | Edmonton, AB

Worked with **Ratmir Derda** and **Russ Greiner** to create **GlyNet**, a deep learning model that predicts protein-carbohydrate interactions.

PROJECTS

- **pyramidify** - Plot camera poses in 3D for creating NeRFs.
- **water-project** - A visualizer and a prediction agent for a water treatment plant.
- **microreactor** - Thermal analyses of fuel core of a nuclear microreactor.
- **glynet** - A multi-task neural network for predicting protein-glycan interactions.
- **phage-counting** - Counting phages by detecting plaques using image classification.
- **8-bit-glycan-draw** - A tool for drawing pixelated glycans for image recognition.
- **polynomial-evolution** - Evolving polynomials using natural selection.
- **synapsify** - Artificial neurons will real action potentials.
- **article-networks** - Visualizing connections between PubMed research papers.

AWARDS

2021 Alberta Innovates Summer Research Studentship

2021 GlycoNet Summer Award

2020 Undergraduate Research Initiative Stipend

PUBLICATIONS

GlyNet: a multi-task neural network for predicting protein-glycan interactions. *Royal Society of Chemistry*. 2022.

Genetically encoded multivalent liquid glycan array displayed on M13 bacteriophage. *Nature Chemical Biology*. 2021.