Shaurya Seth

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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)
Classical Mechanics
Quantum Mechanics
General Relativity
Particle Physics (Roger Moore)
Electromagnetism
Thermodynamics
Linear Algebra
Differential Equations
Industrial Organization
Energy Economics

SKILLS

PROGRAMMING
Languages:
Python • C++ • Lisp
SwiftUI • LaTeX
Libraries:
PyTorch • NumPy • Pandas
Scikit • OpenCV • Jupyter
Matplotlib • Plotly

SOFTWARES
Solidworks • COLMAP
NVIDIA NGP • 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*.