Shaurya Seth

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Education

University of Alberta, *BSc in Physics & Economics* GPA: 3.1 Sep 2018 | Apr 2023
Edmonton, AB

Work Experience

48Hour Discovery, *Intern* Apr 2019 | Apr 2019
Edmonton, AB

- Integrated molecular databases.

Derda Research Group, *Research Fellow* Apr 2019 | Apr 2021
Edmonton, AB

- Compiled fragmented data into a coherent database.
- Performed data visualization and analysis.
- Used machine learning for molecular discovery.

RLAI Lab, *Research Fellow* Apr 2021 | August 2021
Edmonton, AB

- Performed visualization and analysis on sensory data.
- Used reinforment learning techniques for industrial use.

Nobes Research Group, *Research Fellow* Apr 2022 | Present
Edmonton, AB

- Performing thermal analysis of nuclear fuel cores.
- Designing nuclear microreactor with Stirling engines.

Skills

Programming: Python, C++, Lisp
Libraries: PyTorch, NumPy, Pandas, Matplotlib, Jupyter Notebooks
Softwares: Solidworks, Fusion 360, Microsoft Excel

Projects

Nuclear Microreactor, *Solidworks, Thermal Analysis, Mechanical Design*
A kilowatt range nuclear reactor design using Stirling engines.
sites.ualberta.ca/~dnobes/

Water Treatment Optimization using RL, *NumPy, Matplotlib, Jupyter Notebooks*
Temporal-difference prediction on an ultrafiltration plant for optimizing water treatment.
github.com/reup97/wtp-nexting-agent

GlyNet, *PyTorch, NumPy, Pandas, Matplotlib, Jupyter Notebooks*
A multi-task neural network for predicting protein-glycan interactions.
doi.org/10.1039/D1SC05681F

Genetically Encoded, Multivalent Liquid Glycan Array (LiGA), *Pandas*
Co-authored for data extraction.
biorxiv.org/content/10.1101/2020.03.24.997536v1

Automated Phage Counting, *fastai*

Counting phages by detecting plaques using image classification.
github.com/shauseth/phage-counting

Awards

URI Stipend, *Undergraduate Research Initiative* Apr 2020
Funding for the project "Machine Learning of Protein-Glycan Interactions".

GlycoNet Summer Award, *GlycoNet* Mar 2021
Funding for the project "GlyNet: A Multi-Task Neural Network for Predicting Glycan Interactions".