

Neda Shokraneh

COMPUTER SCIENCE PH.D. STUDENT

Simon Fraser University, 8888 University Drive, Burnaby, BC, Canada, V5A 1S6

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Education

SFU(Simon Fraser University)

P.H.D. IN COMPUTER SCIENCE

Burnaby, BC, Canada

Jan. 2021 - present

SFU(Simon Fraser University)

M.S. IN COMPUTER SCIENCE (JOINT WITH BIOINFORMATICS PROGRAM)

Burnaby, BC, Canada

Sep. 2018 - Dec. 2020

- Thesis: Unsupervised annotation of regulatory domains by integrating functional genomic assays and Hi-C data

SUT(Sharif University of Technology)

B.S. IN COMPUTER HARDWARE ENGINEERING (MINOR IN MATHEMATICAL SCIENCES)

Tehran, Iran

Sep. 2013 - Feb. 2018

- Thesis: Investigation and analysis of interactions in biological networks

Research Interests

- Statistical Inference
- Graph Representation Learning
- Computational Biology (Genomics)
- Dimensionality Reduction and Clustering

Publications and Preprints

- Model-based imputation enables improved resolution for identifying differential chromatin contacts in single-cell Hi-C data [Machine Learning in Computational Biology (MLCB), 2023]

Neda Shokraneh, Megan Andrews and Maxwell W Libbrecht

- Integrative chromatin domain annotation through graph embedding of Hi-C data [Bioinformatics, 2022]

Neda Shokraneh, Mariam Arab and Maxwell W Libbrecht

- Continuous chromatin state feature annotation of the human epigenome [Bioinformatics, 2022]

Habib Daneshpajouh, Bowen Chen, Neda Shokraneh, Shohre Masoumi, Kay C Wiese and Maxwell W Libbrecht

Research experiences

Comp bio Lab, Simon Fraser University

RESEARCHER UNDER SUPERVISION OF PROF. MAXWELL LIBBRECHT

Burnaby, BC, Canada

Sep. 2018 - Present

I am working on modeling chromatin organization at different scales and studying gene regulatory mechanisms using probabilistic models and representation learning approaches.

NLP group, Borealis AI

MACHINE LEARNING RESEARCHER

Toronto, ON, Canada

Jan. 2021 - Apr. 2021

- We were working on comparing sequence generation and sequence editing models for the text editing task, sentence simplification, where the output sequence is highly overlapped with the input sequence.

Lupien Lab, Princess Margaret Cancer Centre/University Health Network*Toronto, ON, Canada***RESEARCH INTERN IN MATHIEU LUPHEN RESEARCH LABORATORY***May. 2019 - July. 2019*

- We were working on enhancing the resolution of prostate cancer sample Hi-C data from experiments with shallow sequencing using deep learning methods.

Digital Media Lab, Sharif University of Technology*Tehran, Iran***RESEARCHER (B.S THESIS) UNDER SUPERVISION OF PROF. HAMID R RABIEE***Dec. 2016 - Feb. 2018*

- We did some downstream analysis for Hi-C data such as identifying TADs and promoter-enhancer interactions. I did research on different existing methods and applied them to our data to find significant interactions.

Teaching assistant experiences

Simon Fraser University*Burnaby, BC, Canada***GRADUATE TEACHING ASSISTANT***Fall 2022 - present*

- Machine Learning for the Life Sciences, instructors: Martin Ester, Maxwell Libbrecht (Fall 2023)
- Probabilistic Machine Learning, instructor: Maxwell Libbrecht (Spring 2023, Spring 2024)
- Special Topics in Artificial Intelligence, instructors: Martin Ester, Maxwell Libbrecht (Fall 2022)

Sharif University of Technology*Tehran, Iran***UNDERGRADUATE TEACHING ASSISTANT***Fall 2014 - Spring 2018*

- Probability and Statistics, instructor: Prof. Jafari (Spring 2018)
- Computer Structure and Languages, instructor: Prof. Asadi (Fall 2017)
- Computer Networks, instructor: Prof. Jafari (Fall 2017)
- Computer Architecture, instructor: Prof. Asadi (Spring 2017)
- Probability and Statistics, instructor: Dr. Hosseini (Fall 2016)
- Computer Architecture, instructor: Prof. Ejlali (Fall 2015)
- C Language Programming, instructor: Dr. Gheibi (Fall 2014)

Other experiences

Comp bio Lab, Simon Fraser University*Burnaby, BC, Canada***PAPER REFEREE***2019 - Present*

- Reviewed paper for NeurIPS (2020,2021,2022), ISMB (2021,2022,2023), MLCB (2019,2023)

SFU CSGSA executive committee*Burnaby, BC, Canada***COMMUNICATIONS OFFICER***2018-2019***Winter Seminar Series (WSS) in Advanced Topics in Computer Science and Engineering.***Tehran, Iran***EXECUTIVE STAFF***Dec. 2015, Dec. 2016, Dec. 2017*

Skills

Programming Languages **Python, R, C++**Scripting Languages **Bash**Languages **Persian (Native), English (Fluent)**

Honors & Awards

2021 , Special Grad Entrance School from Simon Fraser University

*Burnaby, BC,
Canada*

2018 , NSERC-CREATE scholarship award (Fully funded scholarship for the first year of master's joint program in Bioinformatics)

*Burnaby, BC,
Canada*