

Hossein Sharifi-Noghabi

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Homepage: <https://hosseinshn.github.io/>

Areas of specialization & interest

Transfer learning, Domain generalization, adversarial learning, multi-task learning, domain adaptation, meta-learning, semi-supervised learning.

Education

- 2016-Present PH.D. in Computer Science, Simon Fraser University, Burnaby, BC, Canada.
GPA: 4.08
Supervisors: Prof. Martin Ester and Prof. Colin C. Collins.
- 2015 M.Sc. in Artificial Intelligence, Ferdowsi University of Mashhad, Mashhad, Iran.
GPA: 17.05/20.
Thesis: Generalized Differential evolution with study of intelligent selection for mutation operator. Grade: 18/18.
Supervisor: Prof. H. Rajabi Mashhadi.
- 2012 B.ENG. in Information Technology, Sadjad University of Technology, Mashhad, Iran.
GPA: 17.92/20
Thesis: A Fault Tolerant Routing Protocol for Grid-Based Wireless Sensor Networks. Grade: 20/20
Thesis Advisor: Dr. J. Hamidzadeh.

Honor & Award

- 2019 1,500 USD Travel Fellowship, International Society for Computational Biology (ISCB).
- 2019 1,000 CAD Travel Fellowship, School of Computing Science, Simon Fraser University.
- 2019 500 CAD Travel Fellowship, Graduate Student Society (GSS), Simon Fraser University.
- 2019 8,000 CAD Computing Science Graduate Fellowship, Simon Fraser University.
- 2017 & 2018 6,500 CAD Computing Science Graduate Fellowship, Simon Fraser University.
- 2016 7,400 CAD Computing Science Graduate Fellowship, Simon Fraser University.
- 2012 Ranked 1st among 67 students of Information Technology.

Selected publication¹

- 2020 **H. Sharifi-Noghabi**, H. Asghari, N. Mehrasa, M. Ester, (2020), "Domain Generalization via Semi-supervised Meta Learning" *arXiv*.

¹For the complete list please visit my Google Scholar page here: [GoogleScholar](#)

2020 **H. Sharifi-Noghabi**, S. Peng, O. Zolotareva, C. Collins, M. Ester. (2020), "AITL: Adversarial Inductive Transfer Learning with input and output space adaptation for pharmacogenomics" *Bioinformatics* 36 (supplement1), i380-i388.

2019 **H. Sharifi-Noghabi**, O. Zolotareva, C. Collins, M. Ester. (2019), "MOLI: multi-omics late integration with deep neural networks for drug response prediction" *Bioinformatics* 35 (14), i501-i509.

2019 **H. Sharifi-Noghabi**, Y. Liu, N. Erho, R. Shrestha, M. Alshalalfa, E. Davicioni, C. Collins, M. Ester. (2018), "Deep Genomic Signature for early metastasis prediction in prostate cancer" *RECOMB-CCB* 2019.

2016 **H. Sharifi-Noghabi**, H. Rajabi Mashhadi, and K. Shojaee. (2016), "A novel mutation operator based on the union of fitness and design spaces information for Differential Evolution", *Soft computing* (21) 6555-6562.

2016 ²M. Mohammadi, **H. Sharifi-Noghabi**, H. Rajabi Mashhadi, and G. Hodtani. (2016) "Robust and stable gene selection via Maximum-Minimum Correntropy Criterion", *Genomics* (170) 83-87.

Oral presentation

2020 **H. Sharifi-Noghabi**, S. Peng, O. Zolotareva, C. Collins, M. Ester. (2020), "AITL: Adversarial Inductive Transfer Learning with input and output space adaptation for pharmacogenomics" *ISMB 2020, Montreal, Canada*.

2019 **H. Sharifi-Noghabi**, O. Zolotareva, C. Collins, M. Ester. (2019), "MOLI: multi-omics late integration with deep neural networks for drug response prediction" *ISMB/ECCB 2019, Basel, Switzerland*.

2019 **H. Sharifi-Noghabi**, O. Zolotareva, C. Collins, M. Ester. (2019), "MOLI: multi-omics late integration with deep neural networks for drug response prediction" *The 13th Lorne D. Sullivan Lecture-ship & Research Day, Department of Urologic Sciences, University of British Columbia, Vancouver, Canada*.

2018 **H. Sharifi-Noghabi**, Y. Liu, N. Erho, R. Shrestha, M. Alshalalfa, E. Davicioni, C. Collins, M. Ester. (2018), "Deep Genomic Signature for early metastasis prediction in prostate cancer" *The 12th Lorne D. Sullivan Lectureship & Research Day, Department of Urologic Sciences, University of British Columbia, Vancouver, Canada*.

Poster

2019 O. Snow, **H. Sharifi-Noghabi**, J. Lu, O. Zolotareva, M. Lee, M. Ester. (2019), "BDKANN - Biological Domain Knowledge-based Artificial Neural Network for drug response prediction" *Machine learning in Computational Biology 2019, Vancouver, Canada*.

2019 **H. Sharifi-Noghabi**, S. Peng, O. Zolotareva, C. Collins, M. Ester. (2019), "Deep Neural Networks for Precision Oncology: Multi-Omics Integration and Transfer Learning" *School of Computing Science Research Day, Simon Fraser University, Burnaby, Canada*.

2019 **H. Sharifi-Noghabi**, O. Zolotareva, C. Collins, M. Ester. (2019), "MOLI: multi-omics late integration with deep neural networks for drug response prediction" *Deep Learning Reinforcement Learning (DLRL) summer school, University of Alberta, Edmonton, Canada*.

2019 **H. Sharifi-Noghabi**, O. Zolotareva, C. Collins, M. Ester. (2019), "MOLI: multi-omics late integration with deep neural networks for drug response prediction" *Henry Fok Ying Tung SYSU-UBC Medical Research Symposium on Cancer 2019, Vancouver, Canada*.

²Joint first authorship

Experience

- 2020 *Research student (coop)* at Princess Margaret Cancer Centre, Toronto, ON, Canada. Supervisor: Dr. Benjamin Haibe-Kains.
- 2017-2018 *Research collaboration* at GenomeDx Inc., Vancouver, BC, Canada. Supervisors: Nicholas Erho (2017) and Seagle (Yang) Liu (2018).
- 2016-Present *Research Assistant* at Laboratory for Advanced Genome Analysis (LAGA), Vancouver Prostate Centre. Director: Prof. C. Collins.
- 2016-Present *Research Assistant* at Database and Data Mining Laboratory, Simon Fraser University. Co-director: Prof. M. Ester.

Teaching Assistant

- 2017 Introduction to computer programming I (Python), Simon Fraser University. Instructor: Anne Lavergne.

Selected Course/Personal Project

- 2012-2020 Multiple online courses on diverse topics including deep learning, reinforcement learning, statistics in medicine, writing in science, etc.
- 2017 Automatic chemical design via Variation Autoencoder using SMILES representation. *Course: Big data genomics for personalized medicine*, Instructor: Prof. Martin Ester.
- 2016 Biomarker discovery and prediction of clinical Alzheimer's diagnosis based on plasma signaling proteins via ensemble feature selection and classification. *Course: Bioinformatics algorithms*, Instructor: Dr. Leonid Chindelevitch.
- 2016 Feature selection using Deep Learning for biomarker discovery in the dark side of the Alzheimer's disease. *Course: Machine Learning*, Instructor: Prof. Greg Mori.

Technical Skill

Scientific: C, R, and Python.

Frameworks: scikit-learn, Pandas, MATLAB, Pytorch, Keras, and Tensorflow.

Community and Volunteer Activity

- 2019 *Program Committee member*: Machine Learning in Computational Biology (MLCB) conference, Vancouver, BC, Canada.
- 2018-2019 *SFU Omics group organizer*: a group to provide an environment for students and other academics to come together to talk about their work related to Genomics, Proteomics, and Metabolomics.