Hossein Sharifi-Noghabi

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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 publication[1]

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" *Bioin-*

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

formatics 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 [2]M. 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 Lectureship & 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.*

[2]Joint 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.