

# An Introduction to Deep Learning with Neural Networks

January 29, 2020 - January 29, 2020 (9:30 am - 12:30 pm)

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Join Acadia Institute for Data Analytics and Digital Nova Scotia on January 29<sup>th</sup> for a morning workshop and hands-on introduction to developing predictive models using deep learning artificial neural networks.

Dr. Danny Silver and Dr. Andy McIntyre will share a high-level overview of the key elements of neural networks and deep learning, and recent advances that allow deep networks to solve challenging problems. Participants will engage in hands-on learning and build their own deep models using prepared software (Keras and Tensorflow).

Programming or coding experience is not a requirement for participants, as all code needed will be provided, however some programming experience will help! For this workshop, please bring a laptop with the latest version of the Chrome browser, and a Google account for using Google Drive. If you need one provided, please let us know in advance!

Anyone who is interested in this session must register by January 24<sup>th</sup> and complete a short study prior to the workshop (which we will send you).

Registration: <https://members-digitalnovascotia.wildapricot.org/event-3664815>

## About the Facilitators



### **Dr. Danny Silver**

Director, Acadia Institute for Data Analytics

Professor, Jodrey School of Computer Science at Acadia University

Danny is a professor in, and a former Director of, the Jodrey School of Computer Science at

Acadia University. His areas of research and development are machine learning, data mining, user modeling, and adaptive systems. He has published over 60 scientific papers, edited special journal editions, and has been part of the organizing or program committee for several national and international conferences, seminars and workshops. Most recently he was awarded a Harrison McCain Foundation Award for research into advanced machine learning methods. Since 1993, he has worked on machine learning and data mining projects in the private and public sector providing situation analysis and problem definition, project management, and guidance, and predictive analytic services. In 2011, he received the Science Champion Award from the Nova Scotia Discovery Center for his work on youth robotics and the advancement of STEM education.



**Dr. Andy McIntyre**

Data Scientist, Acadia Institute for Data Analytics

Andy is originally from Woodstock, New Brunswick and completed a Bachelor of Science degree at Mount Allison University in 2000. Andy continued his academic pursuits at Dalhousie University, enrolling in the Masters of Computer Science Program and later graduated with a Ph.D. in the field in 2007 with a dissertation on co-evolution and automatic problem decomposition. Andy's focus has mainly been machine learning with a particular interest in the Genetic Programming (GP) paradigm for population-based models and evolutionary computation. His work has most recently included a 10-year role as senior researcher with the Network Information Management and Security (NIMS) group at Dalhousie, working on computer gaming and behavior mining applications. He was a postdoc with the department of Ophthalmology and Visual Science, investigating shape-based, predictive GP / imaging models and had further postdoctoral collaborations with National Research Council (NRC) Canada Institute for Biodiagnostics Atlantic at the Neuroimaging Research Laboratory, developing models of functional connectivity with clustering and classification algorithms applied to large-scale, resting-state functional MRI (brain-imaging) data. Andy currently holds an adjunct research associate professor designation at Dalhousie and an adjunct position with the Jodrey School of Computer Science at Acadia University. Andy has assumed the role of Data Scientist at the Acadia Institute for Data Analytics (AIDA) as of October 2018. Research interests include machine learning, parallel architectures, artificial and evolutionary intelligence.

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