Eu Wern Teh

Summary

I am a Ph.D. candidate in the School of Engineering at the University of Guelph where I am advised by Prof. Graham Taylor. I received both of my M.Sc. and B.Sc. degree in Computer Science from the University of Manitoba.
My research is focused on annotation-efficient learning, a.k.a learning with less label, where I explore ways to survive in a SParsely Annotated Data Environment (SPADE).

Experience

Modiface Inc. — 7 St. Thomas Street. #502, Toronto, ON, Canada
Machine Learning Research Intern — *May '20 – Oct '20*
Researching on semi-supervised learning techniques for semantic segmentation on natural objects and urban street scenes.

Machine Learning Research Group, SOE — University of Guelph, Guelph, ON, Canada
Graduate Research Assistant — *Sep '17 – present*
Researching deep learning techniques to solve various computer vision tasks. (e.g. semi supervised learning, active learning, transfer learning and data augmentation.)

Computer Vision Lab — University of Manitoba, Winnipeg, MB, Canada
Graduate Research Assistant — *Sep '15 – Sep '17*
Researched on deep learning techniques to solve computer vision task. My thesis is about solving weakly supervised object localization via attention-based network. In addition, I also worked on domain adaptation and transfer Learning from image to video dataset for weakly supervised object localization and detection.

Education

University of Guelph — Guelph, Ontario, Canada
Ph.D. in Engineering — *2017 – present*
Courses: Introduction to Machine Learning, Deep Learning, Machine Vision, Computational Statistics

University of Manitoba — Winnipeg, Manitoba, Canada
M.Sc. in Computer Science — *2015 – 2017*
Thesis: *Weakly Supervised Object Localization Using Attention-based Neural Networks.*
Courses: Probabilistic Graphical Models, Computational Perception & Cognition, Parallel Computing, Graph Drawing, Research Methodologies.

University of Manitoba — Winnipeg, Manitoba, Canada
B.Sc. in Computer Science & Engineering — *2006 – 2011*

Skills

Research expertise: Deep Learning, Computer Vision, Convolutional Neural Network (CNN), Recurrent Neural Network, Attention based Networks, Machine Learning, Metric Learning, Annotation-efficient Learning
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Deep Learning/Machine Learning Framework: Torch, PyTorch, TensorFlow, Caffe, MatconvNet, Scikit-learn, libsvm

Technical expertise: C++, Python, Matlab, Lua, C, R, PHP, C#, Java, JavaScript, SQL, RPGLE, CLLE

Others: Slurm, Linux, Eclipse, Tmux, Vim, Visual Studio, Microsoft SQL Server, Oracle, Latex, ASP.net, Team Foundation Server, RStudio, Git, Gitlab, Github, Pandas

Publications

Eu Wern, Teh., and Graham, Taylor. (2022) "Learning with less labels in Digital Pathology via Scribble Supervision from natural images." International Symposium on Biomedical Imaging (ISBI) (poster presentation)

Eu Wern, Teh., and Graham, Taylor. (2022) "Understanding the impact of image and input resolution on deep digital pathology patch classifiers." (Submitted to MIDL2022)

Eu Wern, Teh., Terrance, DeVries., Brendan, Duke. Ruowei, Jiang., Parham, Aarabi., and Graham, Taylor. The GIST and RIST of Iterative Self-Training for Semi-Supervised Segmentation (Submitted to CRV2022)

Eu Wern, Teh., Terrance, DeVries., and Graham, Taylor. (2020) "ProxyNCA++: Revisiting and Revitalizing Proxy Neighborhood Component Analysis." European Conference on Computer Vision (ECCV) (poster presentation)

Eu Wern, Teh., and Graham, Taylor. (2020) "Learning with less data via Weakly Labeled Patch Classification in Digital Pathology." International Symposium on Biomedical Imaging (ISBI) (poster presentation)

Eu Wern, Teh., and Graham, Taylor. (2019) "Metric Learning for Patch Classification in Digital Pathology." Medical Imaging with Deep Learning (MIDL) (poster presentation)

Eu Wern, Teh., and Graham, Taylor. (2019) "Apparent Age Estimation with Relational Networks." Conference on Computer and Robot Vision (CRV) (oral presentation)

Eu Wern, Teh., Zhenyu, Guo., and Yang, Wang. (2017) Object Localization in "Weakly Labeled Data Using Regularized Attention Networks." In Proceedings of the IEEE Visual Communications and Image Processing (poster presentation, master thesis)

Omit, Chanda., **Eu Wern, Teh.**, Mrigank, Rochan., Zhenyu, Guo., and Yang, Wang. (2017) "Adapting Object Detectors from Images to Weakly Labeled Videos." In Proceedings of the British Machine Vision Conference (poster presentation)

Eu Wern, Teh., Mrigank, Rochan., and Yang, Wang. (2016) "Attention networks for weakly supervised object localization." In Proceedings of the British Machine Vision Conference (poster presentation, master thesis)

Honors & Awards

Graduate Excellence Entrance Scholarship (GEES), University of Guelph, 2017.

Graduate Enhancement of Tri-Council Stipends (GETS), University of Manitoba, 2015 - 2017.

Conference Travel Grant, Department of Computer Science and Faculty of Science, University of Manitoba, 2016.

International Undergraduate Student Scholarship, University of Manitoba, 2007 - 2008.

Professional Services

Reviewer at **MICCAI 2020**

External reviewer at **NeurIPS 2016, CVPR 2017**

References

Graham Taylor (Associate Professor at University of Guelph)
email: gwtaylor@uoguelph.ca
contact: 519-824-4120 (ext:53644)

Yang Wang (Assistant Professor at University of Manitoba)
email: ywang@cs.umanitoba.ca
contact: 204-474-9740

Neil D.B. Bruce (Associate Professor at University of Guelph)
email: brucen@uoguelph.ca
contact: N/A
