Issam H. Laradji — Curriculum vitae

Contact Information

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Profile

I am currently a PhD candidate at the UBC Machine Learning lab of my supervisor Mark Schmidt and a research intern at Element AI. I work on computer vision and optimization research.

Work

Research Intern at Element AI in the Computer Vision lab — Sep 2017 to Present

Education

Ph.D. in Computer Science (UBC), — Sep 2014 - May 2020 (Expected)
- University of British Columbia
- Supervisor: Mark Schmidt
- *GPA: 4.0/4.0*
- Average Grade: 95.6 %

M.Sc. in Information & Computer Science, — Sep 2012 to May 2014
- King Fahd University of Petroleum & Minerals
- Thesis Topic: *New Algorithms for Deep Learning Machines*
- Advisor: Dr. Lahouari Ghouti
- *GPA: 4.0/4.0*

B.Sc. in Information & Computer Science, — Feb 2008 to Aug 2012
- King Fahd University of Petroleum & Minerals
- *GPA: 3.647/4.0*
- *Last two years GPA: 4.0/4.0*

Publications

1. **Instance Segmentation with Point Supervision.** arXiv preprint arXiv:1906.06392 (2019). To be submitted to BMVC2020. Issam H. Laradji, Negar Rostamzadeh, Pedro O. Pinheiro, David Vazquez, Mark Schmidt.
2. **Where are the Masks: Instance Segmentation with Image-level Supervision. Issam H. Laradji**, David Vazquez, Mark Schmidt. BMVC2019.
3. **Issam H. Laradji**, David Vazquez, Mark Schmidt. **Object Localization for Dense Scenes with Count Supervision**. To be submitted to BMVC2020.
4. **Where are the Blobs: Counting by Localization with Point Supervision. Issam H. Laradji**, N Rostamzadeh, PO Pinheiro, D Vazquez, M Schmidt. *ECCV*, 2018.
5. **Painless Stochastic Gradient: Interpolation, Line-Search, and Convergence Rates**. Sharan Vaswani, Aaron Mishkin, **Issam Laradji**, Mark Schmidt, Gauthier Gidel, Simon Lacoste-Julien. NeurIPS2019.
6. **Fast and Furious Convergence: Stochastic Second Order Methods under Interpolation**. Si Yi Meng, Sharan Vaswani, **Issam Laradji**, Mark Schmidt, Simon Lacoste-Julien. Submitted to AISTATS2020.
7. **Class-Based Styling: Real-time Localized Style Transfer with Semantic Segmentation**. Lironne Kurzman, David Vazquez, **Issam Laradji**. ICCV 2019 Computer Vision for Fashion, Art and Design.

8. **M-ADDA: Unsupervised Domain Adaptation with Deep Metric Learning. Issam H. Laradji**, R Babanezhad. *DAVU: IJCAI/ECAI/AAMAS/ICML 2018 Workshop.*

9. **Graphical Newton for Huge-Block Coordinate Descent on Sparse Graphs. Issam H. Laradji**, J Nutini, M Schmidt. *NIPS OPT workshop*, 2017.

10. **MASAGA: A Stochastic Algorithm for Manifold Optimization.** Reza Babanezhad, **Issam H. Laradji**, Alireza Shafaei, and Mark Schmidt. *ECML*, 2018.

11. **Let's Make Block Coordinate Descent Go Fast: Faster Greedy Rules, Message-Passing, Active-Set Complexity, and Superlinear Convergence.** Julie Nutini, **Issam H. Laradji**, Mark Schmidt. *Submitted to JMLR.*

12. **Convergence Rates for Greedy Kaczmarz Algorithms, and Randomized Kaczmarz Rules Using the Orthogonality Graph.** Nutini, Julie, Behrooz Sepehry, **Issam H. Laradji**, Mark W. Schmidt, Hoyt A. Koepke and Alim Virani. *UAI* , 2016.

13. **Software defect prediction using ensemble learning on selected features. Laradji, Issam H.**, Mohammad Alshayeb, and Lahouari Ghouti. *Elsevier IST*, 2015.

14. **Perceptual hashing of color images using hypercomplex representations. Laradji, Issam H.**, Lahouari Ghouti, and El-Hebri Khiari. *IEEE ICIP*, 2013.

15. **Sparse Single-Hidden Layer Feedforward Network for Mapping Natural Language Questions to SQL Queries. Laradji, Issam H.**, Lahouari Ghouti, Faisal Saleh, and Musab A. AlTurki. *Springer ICANN* , 2014.

16. **XML classification using ensemble learning on extracted features. Laradji, Issam H.**, Mohammed Salahadin, and Lahouari Ghouti. *ACM Southeast Regional Conference*, 2014.

Selected Projects

Mitacs-Accelerate Graduate Research Internship Program Jan 2016 - Oct 2016
- Application of deep learning to counting and detecting anglers in fishery lakes.

Google Summer of Code 2014
- Implemented and wrote the documentation for Neural Network algorithms for the sklearn python open-source library [1].

Independent Research Course
- Autonomous Helicopter Control using reinforcement learning methods.

Kaggle data science competitions
- Implemented many data science algorithms for competitions on gender prediction from handwriting, natural language processing, stock price prediction, and predicting cause-effect pairs.

UBC Learning Analytics Hackathon 2.0 Jan 28-29, 2017
- Implemented a prototype for predicting what students are most interested in from a given course using tweets, students' viewing history, clicks, and discussions in the past offerings of the course.

[1] Found here: http://scikit-learn.org/stable/modules/neural_networks_supervised.html

SportsHack 2015 Nov 27-29, 2016
- Implemented a prototype for predicting the outcome of a play for CFL football players.

Research Groups

UBC Machine Learning Reading Group [2]
- Organizing the group, maintaining its website, and regularly attending its weekly meetings.
- Prepared and presented topics on graphical models, non-convex optimization, parallel algorithms, large-scale kernel methods, convolutional neural networks, kalman filters, and inverse reinforcement learning.

UBC Machine Learning Theory Reading Group [3]
- Regularly attending its weekly meetings.
- Prepared and presented topics on Radamcher Complexity, Support Vector Machine Theory, and Neural Networks Theory.

Teaching Experience

Workshop for a Tekathon ran by Illuminate Vancouver May 2017
- Ran a workshop on Python in Data Science, recommender systems, and intelligent chat bots.[4]

Workshops for the ECE UBC Department Apr 2017
- Ran a workshop on Python and its applications in Data Science.
- Ran a workshop on Machine Learning Algorithms and Applications.

UBC CS TA training event Sep 2016
- Facilitated the **Time Management** session in the event.

Instructional Skills Workshop Apr 2015
- Completed a 3-day intensive workshop that develops participant's teaching skills and confidence.

CPSC 340 - Machine Learning and Data Mining
- Taught it 3 times: (Sep 2015 - Dec 2015), (Sep 2016 - Dec 2016), and (Jan 2016 - Current).
- Required to write Python code for the assignments, prepare and teach weekly tutorials, regularly engage with students in the discussion forums, and hold office hours, mark assignments and exams.

CPSC 210 Software Construction Jul 2015 - Aug 2015
- Required to teach lab sections weekly where students were required to solve problems using JAVA.

CPSC 221 Basic Algorithms and Data Structures May 2015 - Jun 2015
- Required to teach lab sections weekly where students were required to solve problems using C++.

CPSC 422 Advanced Artificial Intelligence Jan 2015 - Apr 2015
- Regularly engage with students in the discussion forums, hold office hours, mark assignments and exams.

[2] Found here: http://www.cs.ubc.ca/labs/lci/mlrg/
[3] Found here: https://www.cs.ubc.ca/labs/beta/Courses/MLTRG.html
[4] https://github.com/IssamLaradji/Tekathon_Workshop_2017

CPSC 322 Artificial Intelligence Sep 2014 - Dec 2014

- Regularly engage with students in the discussion forums, hold office hours, mark assignments and exams.

Achievements

Summer School 2017 in Deep Learning and Reinforcement Learning.

Big Data University Innovation Prize won at SportsHack 2015.

Master Kaggle Participant (Data Science Competition hub) 2014

- "Master" Kaggler [5]; ranked in the top 100 among more than 12,800 members in the year 2014. Notable performance in problems of Gender prediction from handwriting, Natural language processing, Stock price prediction, and predicting Cause-effect pairs.

AI Sandbox Capture the flag competition [6] Feb 2013

- Participated in an AI competition to control a realistic team of bots. Ranked in the top 11 among more than seventy participants.

Summer Project

- Received Google Summer of Code 2014 grant for implementing Neural Network modules for a python open-source library [7]

Online courses with statement of Accomplishment

- **Coursera**: "Algorithms: Design and Analysis, Part 1", "Machine Learning", "Introduction to Data Science", "Coding the Matrix".
- **edX** : "Learning from Data".

Undergraduate project: Agent-based Surveillance System

- Developed a Java program that registers faces and can recognize them efficiently under different lighting. Earned first place in "15th Saudi Technical Exchange Meeting" project competition.

Passed promotion exams of English and Math courses and was promoted to undergraduate level skipping preparatory year Feb 2008

Awards and Scholarships

- Graduate TA Award 2015 at the UBC Computer Science department.
- Google Summer of Code 2014 grant.
- UBC Four Year Fellowship (Awarded Jan 2015).
- Scholarship for M.Sc. studies at King Fahd University of Petroleum & Minerals.
- Scholarship for B.Sc. studies at King Fahd University of Petroleum & Minerals.

[5] http://www.kaggle.com/users/65920/issam-laradji
[6] http://aisandbox.com/start/
[7] http://www.google-melange.com/gsoc/proposal/public/google/gsoc2014/issamou/5668600916475904