RISHAV RAJ AGARWAL

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EDUCATION

University of Waterloo | Canada Sep 2018 – Present

Master of Mathematics, Computer Science

Teaching Assistant: Introduction to Programming in Python, Information Management Systems

Relevant Coursework: Theory of Deep Learning, Advanced Topics in AI, Algorithms

Indian Institute of Technology (IIT) Kanpur | India Jun 2012 – Jun 2016

Bachelor of Science, Economics with Minor in Computer Science

Relevant Coursework: Probability and Statistics, Econometrics, Machine Learning Techniques

PROFESSIONAL EXPERIENCE

Computer Vision Intern | Akasha Imaging | Canada Apr 2020 – Present

- Creating, customizing and deploying deep learning solutions for computer vision tasks (object recognition) on propriety datasets.
- Working remotely and tracking software development using JIRA and following Agile methodology.

Researcher (Data Science) | Premise Data | Canada Sept 2019 – Apr 2020

- Analyzed multi-year data (>10B entries) and created models of political instability using regression analysis and ML algorithms.
- Collaborated remotely with a multi-disciplinary team across three time zones and geographies.

Data Consultant-II | EXL Services | India Sept 2016 – Aug 2018

- Created cloud based ETL bigdata work streams with Talend and spark pipelines as per business requirements.
- Implemented ML-based media mix predictive models for profitable mailing campaigns for a product portfolio worth USD 0.75M.
- Mentored interns and conducted a training session on data science competitions and machine learning techniques.

Visiting Researcher | Multimedia and Networking Lab, Academia Sinica | Taiwan May 2016 – Jul 2016

- Deployed ML techniques to predict the propensity to pay bills on time using credit card and phone activity time series data. | R

Visiting Researcher | School of Communication and Information, Rutgers University | USA May 2015 – Jul 2015

- Created a novel user modeling method to measure cooperation using phone-based spatial and temporal data. | R, WEKA

SELECTED PUBLICATIONS

- [Under Review] Rashwan, A, **Agarwal, RR**, Kalra, A, & Poupart, P. MatrixNets: A New Scale and Aspect-Ratio Aware Architecture for Object Detection. 2020
- **Agarwal RR**, et al. Locating Influential Agents in Social Networks: Budget-Constrained Seed Set Selection. CAIAC, 2020.
- **Agarwal RR**, et al. Consentio: Managing Consent to Data Access using Permissioned Blockchains. ICBC, 2020.
- **Agarwal RR**, et al. Predicting financial trouble using call data—On social capital, phone logs, and financial trouble. PLoS ONE, 2018.
- Singh VK, **Agarwal RR**. Cooperative phoneotypes: exploring phone-based behavioural markers of cooperation. UbiComp, 2016.

SELECTED PROJECTS

MatrixNets: A Scale and Aspect-Ratio Aware Architecture for Object Detection Sep 2019 – Present

- Co-created a light-weight deep learning module that achieves competitive results on MS COCO object detection task. | Pytorch
- Extending MatrixNets to instance segmentation task using one-stage and two stage architectures (Mask-RCNN).

How Effective are Hypergraph Neural Networks? Jan 2019 – Apr 2019

- Theoretical and experimental analysis of Hypergraph Neural Networks leading to an improved architecture. | TensorFlow

Discovering Influential Nodes in Online Social Networks Sep 2018 – Jan 2019

- Devised a novel AI algorithm to find influential nodes in a social network and tested it on multiple real-world data sets. | Python

AWARDS AND HONOURS

- Received the Client Appreciation award at EXL services. Feb 2018
- Won a spot at the 5th Mega Heritage Photo Exhibition, a pan-India Photography competition. Aug 2017

TECHNICAL SKILLS

- **Programming:** Python (Tensorflow, Pytorch, Numpy, NLTK, Json, Pandas, Scikit-learn) | R | SQL (PostgreSQL) | C++
- **Machine learning:** K-Nearest neighbor, GBM, XGBoost, Random Forest, PCA, Clustering, Deep Learning (DL), Computer Vision (CV)
- **Tools**: Weka | Git | LaTeX | MS Office | AWS | Google Cloud (GCP) | Tableau | Linux