ANMOL MAHAJAN

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HIGHLIGHTS OF SKILLS

- Research intern working towards analysing financial behaviour of people and developing behaviour-oriented machine learning prediction models.
- 1 year of research experience in combined domains of Machine Learning, Deep Learning and Data Science currently in my Master's thesis research.
- Advanced technical skills using Python, Keras, PyTorch, NumPy and Pandas.

EDUCATION

MSc. in Computing Science 2019-2021
University of Alberta, Edmonton AB
Overall GPA: (3.9/4.0)

BTech. in Computer Science and Engineering with Honors 2015-2019
Jaypee University of Information Technology, India
Overall CGPA: (9.0/10.0)

WORK EXPERIENCE

AI Research Intern May 2020 - Present
Servus Credit Union, Edmonton AB

- Designing unique Machine Learning methods to provide individual-tailored future solutions and human behaviour modelling.
- Analysing financial behaviour of hundred of individuals using different Data Science techniques for better user oriented predictions.

Graduate Research Fellow May 2020 - Present
University of Alberta, Edmonton AB

- Exploring Machine Learning and Deep Learning methods to tackle the problem of using AI in real world tasks involving data scarcity.
- Developing new methods to achieve SoTA results using limited pre-existing knowledge in comparison with existing naive Machine Learning methods.

Graduate Teaching Assistant September 2019 - Present
University of Alberta, Edmonton AB

- Responsibilities involve grading assignments and exam papers of the students along with assisting students with their doubts regarding the course topics in weekly labs.
- Courses : Computer and Games, Computer Networks, Computer Organization and Architecture.

Summer Research Intern May 2018 - August 2018
Indian Statistical Institute, Kolkata, India

- Worked with Dr. Subhamoy Maitra in Network Security and Cryptography.
- Developed Time Memory Data Trade Off Attack (TMDTO) on Data Encryption Standard (DES) and Triple Data Encryption Standard (3-DES).

PERSONAL PROJECTS

Explainable AI in Knowledge Graphs (KGXAI) January 2020 - April 2020
Python, Pandas, NumPy

- Rule mining from Knowledge graphs using evolutionary algorithm as a part of explainable AI.
- Determined meaningful rules with better efficiency (improved fitness scores) and time performance.

Breast Cancer Classification on BreakHisv2 September 2019 - December 2019
Python, PyTorch, Fast.AI

- One Cycle Policy for optimum learning rate along with transfer learning and fine-tuning for Breast Cancer Classification on BreakHisv2 dataset.
- Outperformed baseline Resnet50 training by 10% increase in overall accuracy.
- Improved time efficiency in comparison with baseline approach by more than 50%.

Breast Cancer Classification: Comparison September 2019 - December 2019
Python, Pandas, Scikit-learn, Matplotlib

- In-depth analysis of Logistic regression, k-nearest neighbour and Support Vector Machine on Breast Cancer Wisconsin (Diagnostic) Data set.
- Designed experiments using PCA, Analysis of Variance (Anova) F test and Chi Square test.
- Evaluated using Precision, Recall, F1-score, ROC probability curves and Confusion matrices.

PUBLICATIONS

Image-to-Level: Generation and Repair 2020
Artificial Intelligence and Interactive Digital Entertainment (AIIDE)

- Proposes the use of images as the input for a Procedural Content Generation via Machine Learning (PCGML) process to generate game levels with high fidelity.

SELECTED ACHIEVEMENTS

MITACS Accelerate Research Funding May 2020 - Present
MITACS, Servus Credit Union ($30000)

- Awarded research funding for partnering up my Master's thesis research work with Servus Credit Union and work towards providing solutions within similar area of interest.

ACM-JUIT Chairperson August 2018 - February 2019
ACM-JUIT Student Chapter, India

- Served as the Chairperson of ACM (Association for Computing Machinery)-JUIT Student Chapter during my Bachelor's.

TECHNICAL STRENGTHS

Programming Languuages	C, C++14, Java, Python
Frameworks	PyTorch, Keras, Fast.AI
Libraries	NumPy, Pandas, SciPy, Scikit-learn, Matplotlib
Utilities	Google Colab, Jupyter Notebook, Google Cloud, Anaconda