Amifa Raj

amifaraj@gmail.com | 208.600.3034

WORK EXPERIENCE

PEOPLE & INFORMATION RESEARCH TEAM | Research Asst.

August 2018 – Present | Boise State University | Boise, ID

- Research work focused on algorithmic fairness of recommender systems
- Developing content-based algorithms for LensKit open-source recommendation toolkit
- Reading and discussing peer-reviewed papers to stay up to date with state of the art of recommender systems with emphasis on fairness, content, word embeddings

COMPUTER SCIENCE DEPARTMENT | Teaching Assistant

August 2018 - May 2019 | Boise State University | Boise, ID

- Answered student questions about class projects on Java
- Graded student code based on project requirements

COMPUTER SCIENCE DEPARTMENT | Lecturer

February 2018 – July 2018 | State University of Bangladesh

- Intro to Programming, Algorithms, Networking: prepared notes and taught classes to undergraduates
- Led lab sections for courses to support interactive learning
- Intro to Programming, programming fundamentals, networking
- Algorithms: Taught concepts like complexity, sorting algorithms, graph theory

PROJECTS

SHOULD WE EMBED OR NOT? | Recommender Systems | Python

- Tech Stack: Gensim, Word2Vec, NLTK, scikit-learn, Pandas, LaTeX
- Investigated the effect of training word embeddings on domain-specific corpora for content-based top-N recommendation
- Used TF-IDF as baseline
- Preliminary results on two domains suggest that corpus size has the greatest impact on recommendation

SERVICE LEARNING PROJECT | Data Science | Python

- Tech stack: Flask, NumPy, Pandas, scikit-learn, matplotlib
- Forecast payment probability of customers that are currently active but at risk of late payment
- Prioritized customers based on behaviors to a workable amount
- Determined the best collectors to work an account

UNDERGRADUATE THESIS | Image Processing | C++, C#

- Tech Stack: Kinect SDK, OpenCV for Haar Feature-based Cascade Classification
- Research and developed a real time computer vision system based on Bangla numerical Sign Language in 2D and 3D
- Angle Based Feature extraction is proposed in this thesis where the depth value of of the hand is calculated to detect fingers
- Clustered and controlled background is considered in both systems and then the results are compared

EDUCATION

BOISE STATE UNIVERSITY

PhD in Computing

advisor: Dr. Michael Ekstrand

Expected May 2023 | Boise, ID

GPA: 3.80 / 4.00

UNIVERSITY OF DHAKA

BS Computer Science & Engineering

February 2017 | Dhaka, Bangladesh

GPA: 3.52 / 4.00

SKILLS

EXPERIENCED

Python • C • C++ • Java • SQL • MapReduce • Hadoop • Spark

FAMILIAR

HTML • CSS • PHP • C# • Matlab • Bootstrap

TOOLS

Git • LaTeX• Kinect SDK • Microsoft Visual Studio • OpenCV

COURSEWORK

GRADUATE

Algorithms • Operating Systems • Advanced Software Engineering • Intro to Data Science • Machine Learning • Recommender Systems • Information Retrieval • Large-Scale Data Analysis

UNDERGRADUATE

Data Mining and Machine Learning • Artificial Intelligence • E-Commerce and Web Engineering • Human Computer Interaction • Computer Networking • Database Systems • Distributed Systems

SERVICE

STUDENT VOLUNTEER

ACM RecSys 2019

CLASS REPRESENTATIVE

facilitated communication between student body and faculty for two years

EVERYTHING ELSE

UVA Online Judge - solved 130 coding challenges on competitive website (username: ampro)