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Education

Bangladesh University of Professionals, Dhaka, Bangladesh 2021 - Present
M.Sc. in Information and Communication Engineering, CGPA: 3.47/4
Advisor: Prof. Dr. Shamim Al Mamun

Bangladesh University of Professionals, Dhaka, Bangladesh 2017 - 2020
B.Sc. in Information and Communication Engineering, CGPA: 3.49/4
Dissertation: DPF-CF: Distance and Purchase Frequency Oriented Collaborative Filtering Based Product Recommendation System. Advisor: Asst. Prof. Dr. S. M. Salim Reza

Professional Experience

Time research & innovation ltd., Southampton, UK. July 2021 – Present
Assistant Product Manager, R&D Division
I leveraged my skills in Product Management and Research, Data Analysis and Interpretation, and Project Management to drive a 33% increase in product adoption. I used my expertise in SaaS and SDLC to translate customer needs into user stories for over 250 businesses. My proficiency in SQL and Database Management, API Integration and PowerBI helped me identify revenue growth opportunities, resulting in a 16% increase in profitability.

Time research & innovation ltd., Southampton, UK. Sep 2020 – June 2021
Associate Product Manager, R&D Division
I utilized my Technical Writing, Requirement Gathering, and UI & UX skills to analyze product requirements, leading to a 22% improvement in product functionality and user satisfaction.

ThinkBiz Exchange Limited, Dhaka, Bangladesh Sep 2019 – Aug 2020
Data Analyst
I conducted in-depth market research using my strong skills in Data Analysis and Interpretation on datasets of 10000+ people. This role required a solid understanding of SQL and Database Management.

Research Experience

- **Machine Learning Approach to Enhance Electric Field Therapy for Brain Cancer using Tumor Treating Fields (TTF):** Developing a machine learning approach to improve the therapy system for treating brain cancer. I am using Python libraries like scikit-learn, TensorFlow, and PyTorch to implement decision trees, random forests, neural networks, and reinforcement learning algorithms. My work involves predictive modelling, image analysis of medical scans, dynamic treatment optimization, and model validation using techniques like cross-validation and bootstrapping. The goal is to personalize and improve the therapy's effectiveness., 2022 to present.
- **Machine Learning Techniques on Telemedicine and Health Advice System:** Implemented Machine Learning, Natural Language Processing, Distributed computing, and IoT networks to develop a user-friendly and efficient telemedicine platform. Currently, we are exploring the use of real-time video calling feeds to assess patient conditions and monitor health parameters., 2021 to present.
- **Noninvasive Diabetes Mellitus Detection using Spatial Feature Analysis of Facial Texture:** We are focusing on Machine Learning classifiers (PyTorch, and Scikit-learn) for diabetes diagnosis. The goal is to develop a user-friendly, non-invasive detection platform that can help detect diabetes at an early stage by analysing the spatial features of facial textures., 2021 to present.
- **Analyzing Extreme Selfie Behavior:** We have been collecting images from Kaggle, Facebook, and Instagram to create a dataset of selfies and extreme selfies. We employ a variety of pre-trained models, including VGG16, VGG19, InceptionV3, DenseNet121, ResNet50, and MobileNetV2, in conjunction with ensemble methods. To mitigate overfitting, we used Model Checkpoint Saving and ensemble techniques, as well as hyperparameter tuning. Our current focus is on refining our models and broadening our dataset to encompass a wider range of extreme selfie behaviors., 2021 to present.
- **Deep Learning Models for the Diagnosis and Screening of COVID-19:** Conducted a systematic review of deep learning models for COVID-19 diagnosis and screening, including comparing their performance, accuracy, sensitivity, and specificity. Currently, we are enhancing the value of this project by delving into anatomical and organ models. Our goal is to create patient-specific models from medical images, utilizing the patient's historical medical data i.e., Chest X-ray and CT images., 2020 to present.
- **Machine Learning Approach for Reducing Carbon Emissions in Tourism:** We employed Latent Dirichlet Allocation (LDA) techniques to analyze sentiments related to tourism, including aspects such as location, cost, hotel, and nearby food options. We classified positive and negative opinions using Naive Bayes (NB), Logistic Regression (LR), and Gradient Boosting (GB) models. Our ongoing efforts are focused on refining our models and expanding the scope of our sentiment analysis to include more factors i.e., Socio-Economic and

Environmental Impact Analysis in specific regions., 2020 to present.

- **Distance and Purchase Frequency Oriented Collaborative Filtering Based Product Recommendation System:** The dataset, created through surveys, revealed a positive correlation between purchase likelihood and increased distance. Item-based similarity was calculated using Cosine and Pearson coefficients, with Pearson yielding superior results. Predictions were made using a weighted sum technique. The Python libraries Pandas, Numpy, and Turicreate were utilized in this study.,2019 to 2020.

Conference Publications

- Jahan, S, Alam, Rushda, **Shuvo, M**. (2021, December). "An Overview of the Latest Research Efforts in the Recommendation System Field", International Conference on Big Data, IoT and Machine Learning (BIM 2021) (pp. 73-81), accepted.
- Jahan, S, Alam, Rushda, **Shuvo, M**, Reza, S.M. (2021, December). "PFSRD-CF: Purchase Frequency and Square Root Distance based Item-to-Item Collaborative Filtering for Removing Cold Start Problem", International Conference on Big Data, IoT and Machine Learning (BIM 2021) (pp. 38-47), accepted.

Awards

- **Arduino Day Idea Challenge, 2019 from Bangladesh University of Professionals**
  A project on Hyperloop and Maglev technology to reduce carbon emissions and safer and faster transportation in undeveloped countries. I was awarded **Champion** in the competition.
- **Senate Award, 2019 from Bangladesh University of Professionals**
  Recipient, the **highest honor** at Bangladesh University of Professionals for extraordinary performance in co-curricular and extracurricular activities around the year.
- **Robolution, 2018 from Military Institute of Science and Technology (MIST)**
  A project on improving the Tumor Treating Fields (TTF) therapy device, a first-of-its-kind treatment for recurrent glioblastoma. We were awarded **Champion** in the competition.

Academic Projects

- **Online Food Review for Android, Android Studio, Java, Firebase Database, Google Map API**
  Users can review food online in a community, find the nearest restaurants using Google Map API, and upload pictures, restaurant owners can feature their restaurant or menu on the app. Title: Mobile Platform: FoodBuzz.
- **Family Album, Android Studio, Java, Firebase Database**
  Users can upload their images to a specific album. Access is limited to only family members. It's compatible with all Android versions. Title: Mobile Platform: MyLove.
- **Bionic Limbs- Robotics, Arduino, IoT, Sensors**
  I developed a prototype that mirrors the movement of a human arm, translating it into motion for a prosthetic arm. The flex sensor, which was created in our lab, was integrated with servo motors to capture and execute movements in real-time. Title: Bio Electronic Limbs.
- **Movie-theatre Ticketing Platform, Java Spring, MySQL**
  Web Application and database system to manage ticket purchases, online booking, scheduling, and movie data. Title: Blockbuster Cineplex.
- **Space Shooter Game, Unity 3D, C#**
  Single-player game for desktop users. It features a scoring system, Top player ranking, and 2D animation. Title: Game Development: Galactic Wars.

Technical Skills & Strengths

- **Programming Languages:** C, C++, Java (Hadoop), PHP, Python (PyTorch, Scikit-learn, TensorFlow, NLTK), SQL, HTML, CSS, JavaScript.
- **Software:** PowerBI, Tableau, MATLAB, WEKA, Cisco Packet Tracer, Android Studio, Arduino IDE, Git, Docker, LaTeX, MS Word, MS PowerPoint, MS Excel.

Extracurricular Activities

- **Trainer** of ICT Training for School Teachers, Time Aid Foundation, 2023
- **Vice President** of BUP Robotics Club, Bangladesh University of Professionals, 2020
- **Organizer** of Techsurgence 2019, BUP Robotics Club, 2019
- **House Club Captain** of Mostofa Kamal House, Adamjee Cantonment College, 2015

References:

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