U Khyoi Nu

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OBJECTIVE

A summer intern position with the opportunity to develop my skills while contributing to creative and challenging solutions.

EDUCATION

MS in Computer Science   Spring 2019 - Present
San Francisco State University, San Francisco, CA, USA
CGPA - 3.76/4.0 (18 credits)

BSc in Computer Science & Engineering   2013 - 2017
Shahjalal University of Science and Technology, Sylhet, Bangladesh
CGPA - 3.5/4.0
Thesis - Gesture based Bengali transliteration keyboard for Android

PROFESSIONAL EXPERIENCES

Software Development Intern   2017 - 2018
Backpack Technologies, Inc.
Dhaka, Bangladesh

SKILLS

- **Programming/Scripting Languages** :
  C; Java; JavaScript; Python; PHP; HTML; CSS

- **Database** :
  MySQL; MongoDB; SQLite

- **Frameworks** :
  Laravel; Django; React; NodeJS; HapiJS; Bootstrap

- **Tools** :
  Git; MATLAB; AWS; BigQuery; Unity; CircleCI; Postman; LaTeX; CISCO Packet Tracer; Google SketchUp

- **Familiar IDE** :
  CodeBlocks; IntelliJ; NetBeans; Android Studio; Atom; PyCharm

- **Operating Systems** :
  Linux; MacOS; Windows

RESEARCH INTERESTS

Artificial Intelligence; Machine Learning; Big Data; Human-Computer Interaction

RESEARCH EXPERIENCES

- **Health Status Prediction based on Food Intake**
  - Reproduced a paper on diet success prediction by Weber et al.
  - Improved the accuracy of prediction by 32% using optimization techniques

- **Gesture based Bengali Transliteration Keyboard for Android**
  - Analyzed different machine learning approaches and proposed an efficient technique for building a gesture based transliteration keyboard
  - Surveyed the text input speed for different typing and swiping keyboards

- **Sentiment Analysis on Bengali text to detect Cyberbullying on Social Media**
  - Collected and formatted 5000+ comments from different public pages of facebook using Graph API
  - Used word co-occurrence matrix, skip gram (1-skip-2-gram), Hellinger PCA, Sliding windows for determining the intent of any comment with accuracy of 70%
  - Used Multilayer Perceptron with ReLu (Accuracy - 60.52%), Identity (Accuracy - 69.23%), Logistic (Accuracy - 68.72%) and Tanh (Accuracy - 71.25%) functions
  - Experimented with Character to Sentence Convolutional Neural Network (CharSCNN) to find important words in a sentence

PUBLICATIONS

- *Ranit Debnath Akash, Khyoi U Nu and Biswapriyo Chakrabarty. An Approach to Sort Unicode based Bengali Text using Trie. International Journal of Computer Applications 163(11):18-22, April 2017.*
  http://www.ijcaonline.org/archives/volume163/number11/27439-27439-2017913764

PROJECTS

- **Ekushe Bangla Swipe Keyboard** : https://play.google.com/store/apps/details?id=com.bangla.keyboard
  Ekushe Bangla is a gesture based **transliteration** keyboard for android with some additional features such as **next word prediction**, optimized word suggestion and bilingual keyboard. Determining the most efficient approach for **gesture detection** and implementation of the next word prediction using **machine learning** was the main challenge of this project. As of January 2020, the keyboard has been downloaded by **50,000+** users and has a rating of **4.3/5** in **Google Play Store**.

- **ProctorSUST** : https://github.com/khyokhyo/proctorSUST
  ProctorSUST is a website for Proctor office of Shahjalal University of Science and Technology (SUST) where the official activities such as approving the campus organizations, notice publication, policy determination, proctorial committee validation etc. are made easy with everything online. **Laravel 5.3** and **MySQL** database is used to develop the back end of this application and **Bootstrap** for the front end. Handling users with different roles and a large database was the main challenge of this project.

- **Slam Book** : https://github.com/khyokhyo/slambook
  Slam Book is a web application developed by using **Laravel 4.2** framework and **MySQL** database. It is a community site which provides a healthy environment where the user can get his own personalized slambook filled by his friends in a new and exciting manner with everything online. As my first web application, learning a new framework and implementing it within a very short time was a great challenge in building the project.

- **Ceres** :
  Ceres is a website developed by using **Django** and **MySQL** hosted on **AWS**. It is an online application that helps users minimize food waste by informing them on the expiration dates and the amount of food they possess along with the ability to share a fridge among multiple users, creating a shopping list, search for recipes based on current items etc. The input method is made easy by reading the item names from a receipt using **OCR**. The most challenging part was hosting the server in an AWS instance with **NGINX**.

- **Pizza Planet** :
  Pizza Planet is a game developed in **Unity** for generating dialog for training Google AI. It is a two player turn based strategy game about buying and selling pizzas through an open dialog between the players. **JAVA Socket** is used for connecting the players.

STANDARDIZED TESTS

GRE   2018/09/10
Score - 306/340; Quant - 159; Verbal - 147; AWA - 3.5;
TOEFL   2018/06/10
Score - 101/120; Reading - 23; Listening - 29; Speaking - 22; Writing - 27;

EXTRACURRICULAR ACTIVITIES

- Participated in "HackBackPack 2" organized by Backpack Technologies, Inc. and won an internship (2017)

- Participated in "National Hackathon for women 2017"

- Participated in "National Mobile Application Trainer and Innovative Application Development Program" (2015)

- Participated in "iferi.com & KAIZEN SUST Project Fair" as a team member of RoboSUST (Robotics club for students of SUST) showcasing an obstacle avoiding robot (2013)

- Solved around a hundred problems on UVA Online Judge