

Md Aminul Islam

Email : aminul7506@gmail.com

Website : <https://aminul7506.github.io>

Github : <https://github.com/aminul7506>

LinkedIn, Skype

RESEARCH INTERESTS

- Software Engineering & Security
- Computer Vision
- Natural Language Processing

EDUCATION

B.Sc. in Computer Science and Engineering

Jul. 2014 to Oct. 2018

Bangladesh University of Engineering and Technology(BUET), Dhaka, Bangladesh

CGPA : 3.57/4.0 (Major : 3.6/4.0, Last 3 terms(58 credits) : 3.85/4.0)

Concentration : Artificial Intelligence & Machine Learning

RESEARCH EXPERIENCE

Scene Reconstruction From Multiple Static CCTV Cameras

Nov. 2017 to Oct. 2018

We developed a system that can detect and track an input object and show it to user by analyzing videos taken from multiple sequential or partially overlapping static CCTV cameras from area of interests. We also developed a movement prediction algorithm for predicting and showing the movement of the input object in the place where camera is unavailable inside the area of interests. [Thesis Book](#)

Supervisor : [Dr. Md. Monirul Islam](#) Collaborator : [Anwar Hossain](#)

Tools : MATLAB, SURF(Speeded Up Robust Features), Object Detection & Tracking Algorithm, Image Segmentation, Image Matting, Polyfit

- worked for recognizing, tracking and indicating the input object in different cameras and determining its movement velocities in different cameras
- developed a movement prediction algorithm using the input object's velocities in different cameras where it was detected and tracked as well as using missing time duration of the input object and presented predicted movement to user in the place of missing camera

WORK EXPERIENCE

Software Engineer, Ridmik Labs, Dhaka, Bangladesh

Nov. 2018 to present

1. **RidmikChat** : [RidmikChat](#) is an XMPP(Extensible Messaging and Presence Protocol) based secured messaging and social platform application for android.

Tools : XMPP, Signal Protocol, ejabberd(XMPP server), AES encryption and decryption, Android Studio, Java, Kotlin, SQLite

- developed XMPP based one to one and group messaging, end-to-end encrypted messaging in client side, different security issues to protect sensitive user app data in android device, and some other features
- working in the continuous development of the app especially in the messaging part

2. **Bangla Article Summarizer(Research Project)** : Bangla article summarizer outputs an extractive Bangla summary of a given Bangla news article which is currently being used to generate automated Bangla summary of news articles for [Ridmik News](#) app.

Tools : Python, NLTK, k-means Clustering Algorithm, our prepared Bangla Words Dataset with Parts of Speech Tag, TF-IDF, Sentence Ranking, Bangla Stemmer, Bangla Punctuation and Stop Words

- contributed for finding and implementing methodology to construct an extractive Bangla article summarizer through sentence scoring using TF-IDF and mentioned tools and also evaluated performance on different news articles with varying number of clusters

3. **Boitai(Android)** : [Boitai](#) is a secured android eBook reader and short story reader and editor with in-App book store.

Tools : Android Studio, Java, Kotlin, Java Native Interface(JNI), C, SQL, JavaScript, HTML, CSS, XML, AES/CBC decryption, RadiumSDK

- developed secured eBook reader with in-App book store, short story reader and editor, authentication, book payment, stream/preview book and many other features and also working as one of a programming advisors for the continuous development

- contributed to research on books encryption and decryption policy based on android versions and implemented some portions of decryption policy using C and JNI
4. **Boitai(iOS) :** [Boitai](#) is a secured iOS eBook reader with in-App book store.
Tools : Xcode, Swift, Objective-C, C++, JavaScript, HTML, CSS, GRDB, StoryBoard, AES/CBC decryption, RadiumSDK, iOS keychain
 - worked for the whole development of secured eBook reader with in-app book store and all other features
 - contributed to research on books encryption and decryption policy using iOS key-chain and implemented the whole decryption policy using C++
 5. **Ridmik Keyboard :** [Ridmik Keyboard](#) is a popular android keyboard in Bangladesh with Bangla phonetic keyboard, English and Arabic layout.
Tools : Android Studio, Java, Kotlin, C, Java Native Interface(JNI)
 - worked on design improvement and Bangla voice typing, fixed some bugs, and implemented custom theme editor, number pad and text editing option
 6. **Ridmik Account Kit Library :** User can login to any Ridmik app in android or iOS devices using a single Ridmik account through this library.
Tools : Android Studio, Java, XML, Xcode, Swift, StoryBoard, iOS Keychain
 - developed secured inter-app authentication and login for both android and iOS

Programmer of AIST Project, Department of CSE, BUET May 1, 2021 - July 31, 2021

1. **AIST Project :** [AIST Project](#) is a web application for users to explore the predictions of [AIST](#) (An Interpretable Attention-based Deep Learning Model for Crime Prediction) model(preprint) and analyse the predicted and actual crime info in different locations.
Tools : Django, Python, SQLite, HTML, CSS, Javascript, jQuery, REST API, tkinter
 - designed database, developed backend, REST API, website and an admin panel for uploading crime data in server predicted by AIST model

ACADEMIC
PROJECTS
(SELECTED)

1. **Stay Safe(Android App)** Apr. 2017 to Jun. 2017
Users can report for crimes in police station, connect with nearby police station or friends in emergency, get notification alert, see verified crimes in an area and police can see reported crimes, connect with victims and verify crimes, make an area as danger prone. [Code](#)
Tools : Android Studio, Java, Firebase, Google Map API, SQLite, Push Notification
2. **Multivariate Stock Price Prediction** Jul. 2018 to Aug. 2018
A model is trained using LSTM on multiple attributes of share market data which can predict the starting price for next day share market.
Tools : Python, Keras, Tensorflow, LSTM, one year share market data
3. **Online Examination(Web)** Nov. 2016 to Dec. 2016
Students can give exams and see marks on both MCQ and descriptive questions, teachers can upload questions from admin panel and can check descriptive answers. [Code](#)
Tools : Oracle, JSP Servlet, Java, HTML, CSS

More Projects (Other Academic and Independent Projects)

SELECTED
COURSEWORK

- Artificial Intelligence
- Machine Learning
- Digital Image Processing
- Pattern Recognition
- Software Engineering & Information System Design
- Operating System
- Computer Graphics

SKILLS

Programming Languages : Java, Python, Swift, C, C++, Kotlin, Objective-C, Assembly(80X86)
Scripting Languages : JavaScript, HTML, CSS, MATLAB, Shell Scripts
Mobile Application Development & Frameworks : Android, iOS, Django
Database : Oracle, SQL
Tools & Others : Keras, Tensorflow, NLTK, Google Map API, Google Vision API, Firebase, AES encryption and decryption, JNI(Java Native Interface), JavaFX, \LaTeX , tkinter