Syed Zami-Ul-Haque Navid

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Research Interests

- Applications of Deep/Machine Learning
- Surveillance and Online Privacy, Security
- Remote sensing
- Computer Vision, Natural Language Processing
- Automation and Robotics

Education

Bangladesh University of Engineering and Technology

B.Sc. in Computer Science and Engineering
February 2016 - February 2021
CGPA: 3.35/4.00

Noteworthy Courses: High Performance Database Systems, Operating Systems, Computer Security, Computer Architecture, Simulation and Modeling, Fault Tolerant Systems, Microcontrollers and Microprocessors, Discrete Mathematics, Concrete Mathematics

Undergraduate Thesis Supervisor: Dr. Muhammad Masroor Ali

Professional Experience

Enosis Solutions

Software Engineer Level 2

March 2021 - June 2022

Project

A California-based Dentistry Management System. I have worked on both the front-end and back-end. My role was developing features according to the client's specification as well as fixing errors found in the production environment.

Technology

.NET framework, Angular, MS SQL Server, SSDT, SSRS

Extra-Curricular Courses

- Deep Learning Specialization (Coursera)
- Mathematics for Machine Learning: Linear Algebra (Coursera)
- Web Application Security with OWASP Top 10 (EDUCBA)

Publications

Syed Zami-Ul-Haque Navid, Protik Dey, Shamiul Hasan, Muhammad Masroor Ali. Static Detection of Malicious Code in Programs Using Semantic Techniques. *In 2020 11th International Conference on Electrical and Computer Engineering (ICECE).*

Research

A Study of Covid-Related Fake News in Bengali on Facebook

We created a dataset containing Covid related Bengali Facebook posts and trained Transformer-based models on it. We also reported analyses on the prevalence of fake news and people's reaction. The archived paper can be found here.

Real-time violence detection from videos

We proposed a human-interpretable hierarchical multiple-instance learning (MIIL) architecture to detect violence in surveillance videos.

Classification of Warnings Raised by Static Analysis Tools

We extracted metrics and information about source code. Then we applied several State-of-the-Art tree classifiers (XGBoost, LightGBM etc.) as well as LSTM, Linear Regression, SVM classifiers on them.

Selected Projects

Vasha-Sikkha

With this mobile application (Flutter) the users can learn English through engaging gaming experience.

Tour Planner

This is a database project that makes a tentative itinerary for a tourist, based on his/her budget.

TCP Session Hijacking

A python tool that launches a session hijacking attack on a TCP session.

Snake Game

Gesture controlled snake game built with ATMega32 microcontroller and accelerometer sensor.

Music Recommender

Given a spotify playlist, this system will recommend songs based on the perceived taste. The system has been built with K-Means algorithm.

Conversational AI

This system relies on OpenAI's pre-trained GPT model checkpoint . It has been fine-tuned on Bengali (written in English letters) dataset of dialogues. It's a work in progress.

Neural Style Transfer for Audios

The encoder-decoder network takes two audio files as input and tries to create a new audio file by incorporating style from one input and content from

the other. It's a work in progress.

Other Projects

Naive Phishing App (NodeJS), Pocket Tanks (Simple Shooting Game, built using JavaFX), Covid Management (NodeJS, MongoDB)

Technical Skills

Languages: Python, C#, C++, SQL, Java, working knowledge in Dart and R

Scripting: Bash, JavaScript

Markup Languages: HTML

Machine Learning Frameworks and Libraries: PyTorch, Scikit-Learn, Numpy, Pandas, HuggingFace, TensorFlow, Keras, OpenCV, OpenPose, SimpleTransformers

Development Frameworks: .NET, Angular, Flutter, NodeJS

Network Simulator: Cisco Packet Tracer, Wireshark, NS2

Electrical Circuit Simulator: Logisim, Proteus

Microcontroller Programming: Atmel Studio

Ontology Tool: Protege

Document Preparation: LaTeX

Version Control: git, SourceTree, GitKraken

Achievements

Asia Dhaka Regional Site Online Preliminary Contest 2017: Our team ranked 137th

Google Hash Code Online Qualification Round 2020: Our team ranked 3108th

Google Kick Start Round G 2020: 3529th place

COVID-19 Idea Contest organized by IEEE Computer Society BUET Student Branch Chapter: Winner

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References

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