Rafid Abyaad

Linkedin : https://www.linkedin.com/in/abyaadrafid abyaadrafid@gmail.com
Github : https://github.com/abyaadrafid
Web : https://abyaadrafid.github.io

EDUCATION

Islamic University of Technology, Dhaka, Bangladesh
B.Sc. Engg., Computer Science and Engineering(CSE)
November, 2017
CGPA: 3.65 / 4.00

STANDARDIZED TESTS

Graduate Record Examinations (GRE) **Score : 319**
International English Language Testing System (IELTS) **Band Score : 8.0**

RESEARCH

Wastage-Aware Routing in Energy-Harvesting Software Defined Wireless Sensor Networks **Oct 2017**

The paper explores different proposed protocol architectures for software defined wireless networks, effective ways for implementing energy efficient WSNs and some of the shortcomings of the approaches. It discusses some of the challenges facing IOT paradigm and major design requirements as well; with the intention to merge SDN and energy reservation approaches for better performance in terms of network lifetime and latency.

EXPERIENCE

Samsung R&D Institute : Software Engineer **Jan 18 - Current**
- Framework engineer for Tizen Web Platform.
- Contributed to multiple commercialized projects.
- Contributing to Chromium and Chromium-efl open source projects.

Samsung R&D Institute : Software Development Intern **Nov 16 - Jan 17**

PROJECTS

Unix Host and Terminal for embedded systems **Nov 2016**

A Unix host and a GNOME-like terminal for the host using only system calls. The Unix host uses the terminal to interface with users. Networking interface was implemented using socket programming for HTTP compatibility. The terminal was implemented using system pipes. Host server was less than a Megabyte in size and perfect to be deployed on embedded systems.

AI and ML Projects **2019**

Kaggle Competitions
- **Recursion Cellular Image Classification** **Top 14%**

This solution was implemented using the state-of-the-art ArcFace algorithm with an EfficientNet backbone. Cosine embedding layer was introduced after feature extraction by CNN and trained for minimizing cosine distance between the same classes of samples.

• **APTOS Blindness Detection** **Top 25%**

Transfer learning was used with a DenseNet201 architecture. Weights of pre-trained imagenet was first trained on an older dataset. The Neural network was then fine-tuned as an ordinal regression problem for the current dataset.

• **Aerial Cactus Identification** **Top 8%**

Utilizing transfer learning and image augmentation on a resnet50, this solution achieved the perfect score in classifying images of cacti taken from satellites.

• **Quora Insincere Question Classification**

Insincere questions dataset from quora was classified with an RNN/CNN hybrid neural network. The model used word embedding and LSTM/GRU backbone with Attention to extract features from text. Statistical features extracted from metadata were further enhanced using a CNN. A linear regressor with sigmoid was applied on the features to produce probabilities. Finally, a decision threshold was chosen based on F1 scores.

Contribution to ULMFiT implementation for Bengali

Using FastAI library, an AWD_LSTM language model was trained to serve as a pre-trained model for further NLP tasks. The text corpus was collected from Bengali wikipedia and Newspaper articles. The model weights was made open source on kaggle.

Academic Projects **2014-2017**

- A car game with the taste of football via LAN using UNREAL ENGINE 4.
- A first person shooter on UNREAL ENGINE 4.
- Music Library project using PL/SQL & JAVA.
- Java RMI Banking System
- Simple CRUD systems using C/C++ and C#

TECHNICAL SKILLS

Languages : C/C++, Python, Shell
Open Source : Chromium, Chromium-efl, Linux
Frameworks : Pytorch, FastAI
Development Tools : Git, Netbeans, Blender, Unreal Engine 4

REFERENCES

Prof. Dr. Muhammad Mahbub Alam
Head, Department of Computer Science Engineering,
Islamic University of Technology, Gazipur
+8801844056181
mma@iut-dhaka.edu

Dr. Abu Raihan Mostofa Kamal
Professor,
Department of Computer Science Engineering,
Islamic University of Technology, Gazipur
+8801844056182
raihanrcc@gmail.com