MD. ABDULLAH AL RAHAT KUTUBI

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RESEARCH INTERESTS

Artificial Intelligence, Computer Vision, Information Security, Machine learning, Natural Language Processing

ACHIEVEMENT

Graduate Teaching Assistant, Dept. of Computer Science, Georgia State University. [23 August 2021 to present]

Graduate research Assistant at Remote Sensing and GIS Lab, Kookmin University, South Korea with full tuition fee waiver. [August 2015- July 2017]

EDUCATION

Georgia State University, GA, USA *August 2021 - Present*
PhD in Computer Science.
Department of Computer Science

Kookmin University, South Korea *September 2015 - August-2017*
M.Sc in Applied Information Technology . CGPA: 4.5/4.5
Department of Applied Information Technology

Khulna University of Engineering and Technology, Khulna, Bangladesh *March 2010 - September 2014*
B.Sc in Computer Science and Engineering. CGPA: 3.37
Department of Computer Science and Engineering

PROGRAMMING SKILLS

Problem solving at Codeforces and Kaggle

TECHNICAL STRENGTHS

Programming Languages:	C++, JAVA, Python, PHP, and MATLAB
Frameworks:	J2SE ,Spring, OpenGL, OpenCV, NumPy, TensorFlow, PyTorch, Django, Keras,NLTK, Matplotlib, Sci-learn, Pandas
Mobile Platform:	Android
Web Technologies:	JSP, CSS3, HTML5, Bootstrap, Ajax, JQuery, JavaScript, JSON.
Databases:	Oracle, MYSQL, and SQLite.
IDE:	Eclipse, Netbeans, and Visual Studio
Operating Systems:	Windows 7 and Linux. Servers:
Apache-tomcat 8.0, glassfish 4.0.	
Version Control System:	GIT(Hands on)
Cloud Service platform:	AWS(Hands on)
Container: & Docker(Hands on)	

THEORETICAL SKILLS

Object-Oriented Design & Programming, Multi-threading, Data Structure and Algorithm, Natural language processing, Computer Vision, Machine learning, Data Mining, deep learning, Statistics, Digital Image Processing, Remote Sensing, and Electronic Payment System, and Artificial Intelligence

COURSES TAUGHT

Database Management System (theory and Sessional), Object-oriented programming using C++ JAVA(Theory and Sessional), Artificial Intelligence, Machine Learning, Operating System(Theory and Sessional), Software Engineering, Digital Image Processing Sessional, Data Structure Sessional).

WORK EXPERIENCE

Bangladesh Army University of Engineering and Technology September 2017-August 2021
Lecturer

· **Responsibilities:** Course Taken: Database Management System (theory and Sessional), Object-oriented programming using C++ JAVA(Theory and Sessional), Artificial Intelligence, Operating System(Theory and Sessional), Software Engineering, Digital Image Processing Sessional, Data Structure Sessional).

Worked as a vice-president of the Carrier club of the university, House Tutor, Course coordinator, coordinator, BAUET B.Sc. in CSE program accreditation process.

Remote Sensing GIS lab, Kookmin University, Seoul, South Korea October 2015-September 2016
Research Programmer/Assistant

· **Responsibilities:** Developed Sattelite image processing algorithms and software using various technologies like Vitual C++, MATLAB, OpenCV.

Systems Solutions Development Technologies Limited May 2015-August 2015
Software Engineer

· **Responsibilities:** Value added service modules development using various technologies like PHP, JQUERY, HTML,BOOTSRAP, JAVASCRIPT, and MYSQL etc. existing code review and modification, and software documentation,

PROJECTS

- **RSNA-MICCAI Brain Tumor Radiogenomic Classification**

  Glioblastoma is an aggressive type of cancer that begins in cells called astrocytes that support nerve cells A malignant tumor in the brain is a life-threatening condition.We are supposed to develop a deep learning model to predict the genetic subtype of glioblastoma using MRI (magnetic resonance imaging) scans that are used to train and test your model to detect for the presence of MGMT promoter methylation.
  Technologies used: Python, Numpy, TensorFlow and Keras, Matplotlib, scikit-learn
  .

- **Performances analysis of Existing KBC frameworks for cyber criminals data**

  Knowledge base construction (KBC) is the process of developing a knowledge base (KB) with facts extracted from mostly unstructured data such as text, audio, image, video, tables, diagrams etc. A KB may develop a relational database of knowledge. In this project, we aimed to study the performances of the existing KBC model(Deepdive, Fonduer, Yago etc.) for building KB for

diversified cyber criminal data. A successful KB of cyber unstructured cyber criminal data might help security intelligence to monitor and control criminal activities along with inferences rules.
Technologies used: Python, Numpy, Matplotlib, scikit-learn. DDLOG, Shell
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- **COVID-19 data visualization and analysis**

  The primary aim of this project is to visualize COVID-19 data and analysis of the virus infection trends using machine learning algorithms.
  Technologies used: Python, Numpy, TensorFlow and Keras, Matplotlib, scikit-learn, Scipy
  .

- **KOSARPRO**

  This software processes synthetic aperture radar (SAR) satellite image data. Its main functionality is to correct the radiometric distortion that exists in the original image, and then to classify a SAR Image into different land-cover classes, like farmland, forest, agriculture, urban, and road, etc. captured by ALOS PALSAR/ PALSAR-2 earth observation satellite.
  Funded by the National Research Foundation of Korea (NRF) under the "Space Technology Development Program"(Project No. NRF-2015M1A3A3A0201225).

  Technologies used: Microsoft Vitual C++ and OpenCV for computer vision tasks.

- ## Land-cover classification algorithms design and development from KOMPSAT-3

  This project was aimed at developed algorithms for detection, segmentation, clustering, and classification of land cover like farmland, forest, agriculture, urban, and road using KOMSAT-3 Data. Here, we use linear regression, canonical discrimination analysis, and genetic algorithm for feature optimization.
  Funded by the National Research Foundation of Korea (NRF) under the "Space Technology Development Program"(Project No. NRF-2015M1A3A3A0201225).

  Technologies used: MATLAB, Image processing MATLAB tool, and OpenCV framework for computer vision tasks.

- ## Convolutional Neural Network based Model for Skin Disease Detection and Classification

  In this project, we developed a CNN based model to automatically classify a particular skin disease from an image.
  Technologies used: Python 3.5, Numpy, TensorFlow and Keras, Matplotlib Framework were used to develop the model.

- ## Virtual Pharmacy Shop System

  Sometimes, many emergency medicines may not be found near the pharmacy shop. Moreover, People like to home delivery services in modern days. Here, we are developing a web-based application which builds a common platform for unused home medicine collection and home delivery service for the machine.
  Technologies used: PHP Laravel framework, MySQL, JavaScript, HTML, CSS.

- ## OtherAcademic Projects

Chatting via Bluetooth (Java2ME) -It helps two mobile users to chat within Bluetooth range. Hotel reservation system (**PHP, MYSQL**)-It reserves the seats for a customer online. Text Editor (**AWT, SWING**). Dictionary (**android apps**) It is a mobile application that shows the meaning of the English word and vice versa. Online community (**JSP, spring, Hibernate, MySQL**)-it is online community website. Registration system: using **Oracle 10g** -it register the students for term courses.

PUBLICATIONS

1. **Md. Abdullah Al Rahat Kutubi** , Shahadat Hossain, Min-gee Hong, Choen Kim "Seasonal Dependency Analysis of Tasseled Cap Components for KOMPSAT-3 Data in Land Cover Classification" (ECCE 2019) https://ieeexplore.ieee.org/document/8679355 , (IEEE Conference) 6 pages

2. **Md. Abdullah Al Rahat Kutubi** , Min-gee Hong, Choen Kim "Evaluating the Performance of Four Selections in Genetic Algorithms-Based Multispectral Pixel Clustering" Korean Journal of Remote Sensing, Vol.34, No.1, 2018, pp.151 166(http://dx.doi.org/10.7780/kjrs.2018.34.1.11 (Journal Indexed by ESCI): 15 pages

3. **Md. Abdullah Al Rahat Kutubi** , Kazi Md. Rokibul Alam, Rafaf Tahsin, G. G. Md. Nawaz Ali, Peter Han Joo Chong, Yasuhiko Morimoto, "An Offline Electronic Payment System Based on an Untraceable Blind Signature Scheme", Transactions on Internet and Information Systems, KSII, vol. 11, issue 5, pp. 2628-2645, 2017 (http://www.itiis.org/digital- library/manuscript/1700). [SCOPUS SCIE index international journal] 17 pages

4. Min-Gee Hong, **Rahat Kutubi** , YongSeung Kim, Choen Kim, " Check for Estimating Stand Volume Using PALSAR-2 Data", 2015 KAGIS Fall Conference International Symposium on GIS, IP06, pp. 277-280, Busan, the Republic of Korea on Nov. 5 - Nov. 7, 2015, 4 pages

5. **Kutubi, Md Abdullah Al Rahat,** Kazi Md Rokibul Alam, and Yasuhiko Morimoto. "A Simplified Scheme for Secure Offline Electronic Payment Systems." High-Confidence Computing (2021): 100031.