Sehtab Hossain

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Diligent and aspirant educator and researcher with 5+ years of experience in the field of Nanofabrication, Data Science, Medical Image Analysis, and Telecom Data Analytics. Always thrive to hone my skills to grow professionally.

Technical Skills

- **Programming Languages:** Python, SQL, R, HTML, CSS, JavaScript, NodeJS,ReactJS, Java
- **Database:** PostgreSQL,Hadoop,MongoDB, Oracle,Datamining
- **Dev Tools:** Git, GitHub, Docker
- **Cloud/Web Service:** AWS, Azure
- **Soft Skills:** Troubleshooting, teamwork, problem-solving
- **Visualization:** Tableau,Power BI, SSRS
- **Fabrication Skill: E Beam Lithography, SEM, STM, AFM**

Professional Experience

University of Missouri – Kansas City – *GTA/Instructor;* Kansas City, MO — August *2018 – May 2023*

- Instructor for the **Logic Design** (ECE-227), **Electrical Circuit-1** (ECE-277), **Fields & Wave Theory** (ECE-303), **Electronics-1** (ECE-331)
- Teaching, grading, and supervising students in the experiments; Supervising students for Senior Year Projects
- Conduct Research on Artificial Intelligence (AI), Machine Learning (ML), Deep Learning (DL) and Data Science

University of Missouri – Kansas City – *GRA;* Kansas City, MO — *August 2016 – August 2018*

- Designed easy-to-follow **visualizations** using **Tableau** and published dashboards, and stories on web and desktop platforms
- Built Artificial Neural Network using **TensorFlow** in **Python** to identify the customer's probability of canceling the connections Performed feature scaling, feature engineering, and statistical modeling
- Analyzed the surface of the materials by **Scanning Electron Microscope (SEM)**, **Atomic Force Microscope (AFM)**, device fabrication with **Electron beam lithography (EBL),** wet and dry etching, mask pattern, metal evaporation, worked in the cleanroom

University of Maryland Baltimore County – *GTA / Instructor*; Baltimore, MD — August 2015 – August 2016

- Instructor of Electrical Circuit-I (ECE-227)
- Operating MBE and MOCVD. Took part in the Fabrication of Quantum Cascaded LASER(QCL)
- Scripted procedures and User Define Scalar Functions to be used in the SSIS packages and SQL scripts

Publications

- Hossain, Sehtab, et al. "More Than a Device: Function Implementation in a Multi-Gate Junctionless FET Structure." *Journal of Electronics and Electrical Engineering* (2023): 1-1.
- Hossain, Sehtab, Md Arif Iqbal, and Mostafizur Rahman. "A new approach towards embedded logic in a single device." *2020 IEEE 20th International Conference on Nanotechnology (IEEE-NANO)*. IEEE, 2020.
- Fatima, et al. "On the structural and electronic properties of Ir-silicide nanowires on Si (001) surface." *Journal of Applied Physics* 120.9 (2016): 095303.
- Iqbal, Md Arif, et al. "Thermal management challenges and mitigation techniques for transistor-level 3-D integration." *Microelectronics Journal* 91 (2019): 61-69.
- *Google Scholar Link*

Education

University of Missouri Kansas City, MO — *August 2016 – May 2023*

Ph.D. in Electrical & Computer Engineering, Major in Data Science, Nanofabrication *(*GPA: 3.84/4.00)

University of Missouri Kansas City, MO — *January 2022 – May 2023*

*MSc in Data Science (*GPA: 3.84/4.00*)*

University of North Dakota, ND — *January 2012 – August 2015*

MSc in Electrical Engineering, Major in Data Science/Analytics *(GPA: 4.00/4.00)*

Islamic University of Technology, Bangladesh — *December 2004 – November 2008*

Bachelor of Science in Electrical & Electronics Engineering, Major in Data Analytics *(GPA: 3.67/4.00)*

Selected Projects

Project	Objective	Tools used	Performance
Sentiment Analysis with BERT Transformer	Implement BERT transformer for sentiment analysis and compare with other machine learning algorithm for predictive analysis	KNN BERT Transformer Nltk Wordlemmatizer SentimentIntensityAnalyzer	Accuracy: 78%
Plant Disease Prediction	Predict plant disease from leaf image using CNN and build a webapp to predict plant disease from uploaded image	Cv2 Tensorflow Keras Conv2D Adam Streamlit	Accuracy: 98%
Breast Cancer Classification	Predicting malign and benign by several machine learning algorithms and deep learning algorithms	SVC KNN Logistic Regression Neural network Seaborn Earlystopping Keras dropout GridSearchCV	Accuracy: 78%
Stock Predictions	Predict Tesla stock prices from yahoo finance and time series analysis by LSTM and predict stock price with Monte Carlo Simulation	Keras LSTM Sequential Monte-Carlo Datareader	Accuracy: 78%
Object detection using YOLO	Object detection from an image by You Only Look Once (YOLO)	CV2 Yolov3_small	Accuracy: 75%
Face Detection	Face detection from an image with MTCNN	Keras Tensorflow Mtcnn	Accuracy: 74%
Sentiment Analysis	Analyze customer sentiment with NLTK	Nltk Tfidfvectorizer Random forest	Accuracy: 83%
Statistical Learning	Analyze several dataset from CRAN to analyze with supervised and unsupervised learning algorithms with R	Ggplot2 Lm Glm Svc Knn Naïve bayes Decision tree Random forest XGBOOST K Means Clustering	