Md. Enamul Hoq
Medical Imaging Informacist| Deep Learning(CNN)

EDUCATION

Ph.D. in Biomedical Informatics (Medical Imaging)
University of Arkansas for Medical Sciences (UAMS), Arkansas, USA   05/2025

MSc in Integrated Science and Technology (Physics)
Southeastern Louisiana University, Hammond, USA   12/2020

EXPERIENCES

Graduate Research Assistant (GRA)   Jul 2021 - present
Working as a Research Assistant at Prof. Dr. Fred Prior's Lab, UAMS

- Work independently to apply AI in Medical Imaging
  - Extensive experience in applying AI techniques to medical imaging data, including MRI, CT, X-ray, ultrasound, and other modalities
  - Expertise in developing and implementing machine learning models and deep learning algorithms for automated analysis of medical images
  - Demonstrated ability to optimize image processing algorithms, improve image quality, and reduce noise in medical images
  - Strong knowledge of medical image analysis techniques, such as segmentation, registration, and classification, and their application to diagnosis and treatment planning
  - Experience in integrating AI algorithms into clinical workflows and developing software tools for clinical use
  - Knowledge of medical standards and regulations related to medical imaging, such as DICOM and PACS, and experience in working with healthcare providers and industry partners
  - Strong communication and collaboration skills, with a proven ability to work in interdisciplinary teams with radiologists, clinicians, computer scientists, and other stakeholders
  - Experience in mentoring and supervising junior team members and collaborating with external partners and vendors

Graduate Research Assistant (GRA)   Aug 2019 – Dec 2020
Worked as a Research Assistant at Prof. Dr. Sanichiro Yoshida's Lab, SELU

- Worked independently to apply Digital Image Correlation in Film Deformation
  - Developed an image correlation algorithm in MATLAB to analyze the deformation of wrapping film in real-time
  - Visualized the results using MATLAB's built-in visualization tools, such as contour plots, deformation maps, and animation
  - Validated the results by comparing them with analytical solutions, numerical simulations, and experimental measurements obtained using other techniques

Research and Development Engineer   Aug 2017 – Jul 2019
Worked as a Research Engineer in HSKA, Germany, and Vietnam

- Worked with a team as a team leader in different projects ranging from image processing to signal to process
  - Signal processing techniques can be used to detect and diagnose faults in PCBs, such as open circuits, short circuits, and component failures. This is done by analyzing the signals generated by the board during operation and comparing them to a reference signal or expected behavior
  - CBs are often subject to noise and interference from various sources, such as electromagnetic fields, power supplies, and adjacent components. Signal processing techniques can be used to filter out this noise and improve the signal-to-noise ratio, thereby improving the reliability and performance of the board

Research Internship   Sep 2019 – Feb 2020
Working as a Research Assistant at Prof. Dr. Wen-Nung Lie's, NCCU, Taiwan

- Worked independently on 2D to 3D video conversion
  - Depth perception: One of the main challenges in 2D to 3D video conversion is creating the illusion of depth perception, which requires inferring depth information from a 2D image. This can be achieved through various techniques, such as depth estimation, stereo matching, or motion analysis, which use algorithms to analyze the image and create a depth map of the scene

HONORS & CERTIFICATIONS

- Secured 3rd place in Astronomy Olympiad nationally.
- Secured UAMS internal funding.
- Secured SELU Summer Scholarship
- Image and Video Processing from Duke University
- Documentation and Usability for Cancer Informatics
- Exploratory Data Analysis with MATLAB
- Fundamentals of Digital Image and Video Processing
- Tools for Data Science
- Took numerous graduate-level courses ranging from Medicine to AI

TECHNICAL SKILLS

Development and Application

Python | C++ | JavaScript | Node.js | R | DICOM | PACS | MATLAB | HL7 | RADLEX | EPIC | SNOMED | PyTorch | TensorFlow | Pandas | NumPy | XGBoost | HTML5 | Statsmodels | Bootstrap | Deep Learning | CNN | GIS | | Git | Keras | Caffe | MXNet | OpenCV | Deep Learning | Simulink | 3D Slicer |

Database

MySQL | MongoDB | SQL Server | Elastic Search 7 | Logstash | Redis |

Tools

GitHub | ITK-SNAP | ImageJ | BitBucket | PyCharm | Osirix | Visual Studio Code | Visual Studio | Anaconda | Virtualenv | MIPAV | Medical Terminology | Clinical Standards |

Secondary Skills

Big Data Technologies

Hadoop | Hortonworks | HDFS | Map Reduce | Pig | Apache Spark | Hive | HBase | Sqoop | Oozie | Ambari | Zookeeper | Apache Drill | Kafka

Cloud

AWS IAM, AWS S3, AWS EC2

Data Science Technologies and Concepts

NumPy | NLTK | spaCy | Jupyter Notebook | Tableau | ETL processing (Parsing | Concatenation | Transformation | Conversion | Normalization) | Linear Regression Analysis | Rule Based Classifier | Decision Trees | k-NN | K-Means Clustering | Random Forest

CONTACT DETAILS

Email:	mhoq@uams.com
Phone:	+1-(985)-602-6909
LinkedIn:	linkedin.com/in/md-enamul-hoq-b42588193
Kaggle:	lkaggle.com/mdenamulhoq
Address:	1701 Westpark Dr, Apt 228, Little Rock, AR, 72204 (Open to relocation)