europass

Yumna Islam

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EDUCATION AND TRAINING

02/01/2019 – 13/06/2023 Dhaka, Bangladesh
BACHELOR OF SCIENCE IN COMPUTER SCIENCE AND ENGINEERING Ahsanullah University of Science and Technology

Website https://www.aust.edu/

Field of study: Programming & Problem Solving, Data Structure & Algorithms, Database Management System, Linear Algebra & Calculus, Statistics, Industrial Software Engineering, Pattern Recognition & Machine Learning, Artificial Intelligence, Soft Computing, Digital Image Processing.

Final grade: 3.809/4.00 **Level in EQF:** EQF level 6 **Type of credits:** Bangladeshi Credit System **Number of credits:** 161.25

Thesis: Using Automotive ECU And Computer Vision Based Image Processing for Vehicle Lane Keeping

WORK EXPERIENCE

01/10/2023 – 31/08/2024 Dhaka, Bangladesh
QA ASSOCIATE - SOFTWARE QA NAGAD LTD

- Worked for one of the largest fintech companies in Bangladesh, testing 5 mobile and website applications and contributing to 2 major projects.
- Conducted end-to-end functional, UI/UX, and API testing, reported and tracked bugs using JIRA, and performed extensive regression testing for a product launch serving 80 million users.

03/07/2023 – 01/10/2023 Dhaka, Bangladesh
TECHNOLOGY INTERN - SOFTWARE QA NAGAD LTD

- Gained knowledge and hands-on experience on SDLC, STLC, agile methodology and software testing techniques
- Analyzed business requirements for applications and written test cases on them to perform exploratory testing, giving daily progress reports to higher management and stakeholders

PUBLICATIONS

Efficient Lane Detection and Keeping for Autonomous Vehicles in Real-World Scenarios

F. Azad, **Y. Islam**, C. Z. Md Ruslan, C. Aye Mong Marma and K. A. Kalpoma, "Efficient Lane Detection and Keeping for Autonomous Vehicles in Real-World Scenarios," *2023 26th International Conference on Computer and Information Technology (ICCIT)*, Cox's Bazar, Bangladesh, 2023, pp. 1-6, doi: 10.1109/ICCIT60459.2023.10440972.

A Lane Detection Framework for Automated Vehicle Using Computer Vision

Islam, Y., Azad, F., Ruslan, C.Z.M., Marma, C.A.M., Kalpoma, K.A. (2024). A Lane Detection Framework for Automated Vehicle Using Computer Vision. In: Shrivastava, V., Bansal, J.C., Panigrahi, B.K. (eds) Power Engineering and Intelligent Systems. PEIS 2023. Lecture Notes in Electrical Engineering, vol 1098. Springer, Singapore. https://doi.org/10.1007/978-981-99-7383-5_19.

RESEARCH EXPERIENCE

Undergraduate Thesis

An undergraduate thesis on "**Using Automotive ECU And Computer Vision Based Image Processing For Vehicle Lane Keeping**" supervised by Prof. Dr. Kazi A Kalpoma - Created a lane detection and lane keeping system using image processing pipeline and AURIX microcontroller.

Pattern Recognition Course Project

Worked on "**Intrusion Detection Using Multiple Machine Learning Models**"- implemented several machine learning models, for example- Naïve Bayes, KNN, Clustering, etc for better accuracy in intrusion detection. Project Link

Natural Language Processing Course Project

Contributed to a Natural Language Processing based research project, "**Authorship Attribution using Machine Learning models**"- used transformer based models- BERT for detecting authorship mainly from Bengali corpus (dataset- BAAD 16). Achieved higher accuracy of 99% with Bangla-BERT-Base model. Project Link

Technical Skills

Programming Language Skills: Python, C, Java
AI & ML tools: TensorFlow, Scikit-Learn, Numpy, Pandas, Matplotlib
Research Field Skills: Data Analysis, Machine learning, Image Processing
Databases: MS SQL, MySQL, Oracle SQL
Data Visualization Software Skills: Google Colab, Jupyter Notebook, Kaggle, MATLAB, LaTeX
Web Design and Development Skills: HTML, CSS, Bootstrap

PROJECTS

SIMS- Student Internship Management System

Developed a database management system using Java Swing and MS SQL (with a PL/SQL version) to manage student internship applications and company vacancies. Project Link

Cooling Load Prediction of a Building

An AI project where I conducted predictive analysis using Python to compare the performance of four ML models of regression-linear regression, SVM, KNN, and random forest on building cooling load data. Random forest regression model performs better with a mean absolute percentage error of 3.44%. Project Link

Fashion-Lifestyle(ALOHA)

Created a fashion blog website using HTML, CSS, JavaScript, PHP and MySQL with an ASP.NET version, enabling users to interact with moderated content. Project Link

Covid19 Vaccine Management System

Developed an Android app (language- Java) in Android Studio to streamline vaccination scheduling based on user-provided details like age, location, and health. Project Link

Blind Stick

Engineered a low-cost smart blind stick using a microcontroller (Arduino Uno), sonar, buzzer and LED to assist the visually impaired by detecting obstacles. Project Link

LANGUAGE SKILLS

Mother tongue(s): **BENGALI**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	C1	C2	C1	C1	C1

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

LICENSE AND CERTIFICATIONS

Supervised Machine Learning: Regression and Classification

Skills: Build & train supervised machine learning models for prediction & binary classification tasks, including linear regression & logistic regression. Grade Achieved: 100% Certification Link

Advanced Learning Algorithms

Skills: Tensorflow, Artificial Neural Network, Learning Algorithms, Machine Learning Model Development, Tree Ensembles Grade Achieved: 99.60% Certification Link

Understanding Data Science

Skills: Introduction to data science concepts- data collection, storage, exploration, visualization and experimentation techniques (A/B testing. Machine learning concepts- supervised learning and clustering). Certification Link

Introduction to Data Science in Python

Skills: Introductory data analysis with python, pandas, matplotlib. Certification Link

HONOURS AND AWARDS

- **Dean's List of Honor – Ahsanullah University of Science and Technology (AUST)-** 13/06/2023
- **Awarded a merit based scholarship for 2 semesters for academic excellence by AUST**