Soumyajit Saha

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EDUCATION

Master of Science (MS), Computer Science *Aug'21 - May'23* (Expected)
University of Utah, *Salt Lake City, UT* GPA: 4.0/4.0

Bachelor of Technology (B. Tech), Computer Science & Engineering *Jul'16 - Jun'20*
Maulana Abul Kalam Azad University of Technology, *India* GPA: 9.48/10

SKILLS

Core Skills: Java, C/C++, C#, JavaScript, HTML/CSS, SQL, NoSQL, Python, MATLAB, RESTful API, Web Services, Applied Machine Learning, Microsoft Azure, Android
Frameworks: .NET, JUnit, Mockito, PowerMockito, Moq, React.js, Scikit-Learn, NLTK, Spring Boot, TensorFlow
Tools: Git, Eclipse, IntelliJ, Maven, Visual Studio, Visual Studio Code, Swagger, ActiveMQ, Anaconda, Jira, Selenium
Databases: MySQL, Teradata, Oracle, MS-SQL-Server, MariaDB, MongoDB, PostgreSQL, Firebase
Coursework: Advanced Algorithms, Operating Systems, Data Structures, Principles of Computer Programming, DBMS, Object Oriented Programming, Computer Networks, Theory of Computation, Natural Language Processing, Data Mining

WORK EXPERIENCE

Software Engineer Intern, Motorola Solutions Inc. *May'22 - Aug'22*
West Valley City, UT

- Implemented a CLI-based System Analyser application for **FLEX** (Computer Aided Dispatch) Software to monitor and record usages and configuration changes at the client end and increased the system performance by **20%**. [Java, JUnit, Mockito, PowerMockito, MariaDB]
- Enabled the business to plan crucial timely upgrades and bug fixes for the software to enhance productivity.
- Designed and developed RESTful web services for CRUD operations, tracking overtime changes in software configurations at different client-sides in the form of versioned snapshots, comparing configurations, and restoring earlier configurations as per requirements. [C#, .NET, MongoDB, ActiveMQ, Swagger]
- Built a web-based application to view and compare category-wise configurations for different clients and versions in an efficient and structured way using service endpoints for internal business needs. [React.js]

Graduate Teaching Assistant, University of Utah *Aug'21 - Present*
Salt Lake City, UT

- Reviewed codes and projects, graded and guided a cohort of **126** students in Graduate courses namely, Mobile Application Development, Introduction to Software Development, and Data Structures and Algorithms. [Java, C++, Android]

Programmer Analyst, Cognizant *Sep'20 - Jul'21*
Chennai, India

- Wrote optimized SQL queries to reduce the time of data retrieval and processing from different databases. [Teradata]
- Designed and developed monthly and quarterly Healthcare system reports for **Blue Cross and Blue Shield of Minnesota**. [SSRS, WhereScape Red]
- Automated the timely generation of over **100** reports along with their sub reports using Subscription queries.[PowerBI]

Research Intern, Jadavpur University *Dec'18 - Jan'19*
Kolkata, India

- Implemented various wrapper-based algorithms and developed a **Harmony Search**-based technique for the feature selection for generic classification models. [MATLAB, Python]
- Selected relevant features using meta-heuristic algorithms, augmented the Classification Accuracy up to **98.99%**, and reduced the model building time by a factor of **4**. [Scikit-Learn]

RELEVANT PROJECTS

A Bi-stage Feature Selection Approach for COVID-19 Prediction using Chest CT images *Sep'20 - Oct'20*

- Trained a CNN model using CT images and extracted features from the model. [TensorFlow-Keras]
- Incorporated ensemble of two filter methods namely Mutual Information and ReliefF for initial screening of features and applied wrapper-based Dragonfly Algorithm for a further selection of relevant features. [Python]
- Tested the model on 2 open access databases namely SARS-CoV-2 CT images and COVID-CT datasets, and attained Prediction Rates of **98.39%** and **90.0%** respectively. [Scikit-Learn]

Feature selection for Facial Emotion Recognition using Cosine Similarity based Harmony Search Algorithm
Jan'20 - Mar'20

- Extracted features using 5 feature descriptors, namely, uniform local binary pattern, horizontal-vertical neighborhood local binary pattern, Gabor filters, histogram of oriented gradients and pyramidal histogram of oriented gradients.
- Proposed a feature selection technique called Supervised Filter Harmony Search Algorithm based on Cosine Similarity and minimal redundancy maximal relevance concept using Pearson's Correlation Coefficient.
- Tested the model on 2 benchmark facial emotion recognition datasets, namely the Radboud faces database and the Japanese female facial expression. [MATLAB]
- Achieved highest Classification Accuracy of **97.79%**, Precision of **98.6%**, Recall of **97.8%**, and F-measure of **98.19%**.