

SOUMYAJIT SAHA

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EDUCATION

University of Utah, Salt Lake City, UT
Master of Science in Computer Science

August 2021 – May 2023(Expected)
GPA: 4.0/4.0

Maulana Abul Kalam Azad University of Technology, India
Bachelor of Technology, Computer Science & Engineering

July 2016 – June 2020
GPA: 9.48/10

TECHNICAL SKILLS

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

WORK EXPERIENCE

Software Engineer Intern, *Motorola Solutions Inc.*

May 2022 – August 2022

- 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. **[Java, JUnit, Mockito, PowerMockito, MariaDB]**
- Optimized the data transfer between client and server, thereby increasing the system performance by **20%**.
- Enabled the business to plan crucial timely upgrades and bug fixes for the software to enhance productivity.
- Designed and developed RESTful API 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 back earlier configurations. **[C#, .NET, MongoDB, ActiveMQ, Swagger]**
- Built a web-based application to view and compare category-wise Software configurations in various snapshot versions and at different clients using service endpoints for internal business needs. **[HTML, CSS, JavaScript, React.js]**

Graduate Teaching Assistant, *University of Utah*

August 2021 – Present

- 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*

September 2020 – July 2021

- 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*

December 2018 – January 2019

- 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 to augment the Classification Accuracy up to 98.99%, and reduced the model building time by a factor of 4. **[scikit-learn]**

RELEVANT PROJECTS AND PUBLICATIONS

A Bi-stage Feature Selection Approach for COVID-19 Prediction using Chest CT images

- 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

- 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%**.