MD. TAZEL HOSSAN

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Objective

Highly motivated and skilled computer science engineer seeking challenging opportunities to leverage technical expertise in developing novel software solutions. I am committed to applying my problem-solving abilities and comprehensive research interest in cutting-edge Machine Learning techniques, Deep Learning, Natural Language Processing, Data Science, Cybersecurity, and Multi-objective Optimization techniques to drive technological advancements and organizational excellence.

Technical Skills

- **Programming Languages:** C/C++, Python, JAVA, Android, MATLAB, Arduino, Assembly
- **Web Development:** HTML5, CSS3, JavaScript, PHP, jQuery, React.js, Node.js, Django, Laravel
- **Database Technologies:** MySQL, Firebase
- **Software Engineering Tools:** Git, GitHub, Bitbucket, Trello, Slack, Microsoft Teams, Toggl, Edraw Max
- **Integrated Development Environments (IDEs):** IntelliJ IDEA, PyCharm, Visual Studio Code, Android Studio, Anaconda Navigator, Jupyter Notebook, IDLE, Eclipse, Prolog, Flex, Code::Blocks, Arduino IDE, Proteus, PartSim
- **Networking and Protocols:** TCP/IP, HTTP/HTTPS, DNS, FTP/SFTP, SSH, VPN
- **Operating Systems:** Linux, Windows
- **Cloud Platforms and Services:** Amazon Web Services (AWS), Microsoft Azure, Google Colab
- **Data Analysis and Visualization Libraries:** Python (Matplotlib, Seaborn, Plotly, Bokeh)
- **Machine Learning Algorithms & Techniques:** Supervised Learning (Linear Regression, Logistic Regression, Decision Trees, Random Forests, Support Vector Machines (SVM), Naive Bayes, k-Nearest Neighbors (k-NN), Gradient Boosting (e.g. XGBoost, Adaboost)), Unsupervised Learning (Clustering: k-Means, Hierarchical Clustering, DBSCAN), Dimensionality Reduction (Principal Component Analysis (PCA), Singular Value Decomposition (SVD)), Ensemble Methods(Bagging, Boosting)
- **Natural Language Processing (NLP):** Text Preprocessing, Tokenization, Sentiment Analysis, Text Classification
- **Deep Learning Models & Algorithms:** Artificial Neural Networks (ANN), Convolutional Neural Networks (CNN), Recurrent Neural Networks (RNN), Long Short-Term Memory (LSTM), You Only Look Once (YOLO), Region Proposals (R-CNN, Fast R-CNN, Faster R-CNN), Single Shot Detector (SSD)

Professional Training

HAYS Working for Your Tomorrow, UK, *Internship and mentorship program (remote), Under AKM HASAN, Cyber Security Senior Manager, Head of Cyber Security @ HAYS*

Jan – Jul 2023

Experience

Software Developer (remote), Tufts University, USA, *Under Professor, Shafiqul Islam, Director, Data-Driven Decision Making @ Tufts*

Jul 2023 – Present

- Collaborating with Professor Shafiqul Islam on developing machine learning models for research in artificial intelligence.
- Developing and maintaining the web application *AquaPedia* using the MediaWiki, PHP, and Laravel framework.
- Implementing data analysis algorithms for large datasets.
- Writing clean, scalable code and conducting thorough testing.
- Participating in code reviews and weekly progress meetings.
- Documenting technical specifications and user guides.

Education

- **M.Sc. in Computer Science & Engineering**, *Jahangirnagar University (JU)*

  CGPA: 3.95/4.00 (1st Semester)
  Expected Graduation: 2024

- **B.Sc. in Computer Science & Engineering**, *Jahangirnagar University (JU)*

  CGPA: 3.87/4.00
  Position: 2nd
  Graduation: 2023

- **Higher Secondary Certificate (H.S.C) in Science**, *Holy Land College, Dinajpur*

  GPA: 5.00/5.00
  Passing Year: 2017

- **Secondary School Certificate (S.S.C) in Science**, *Uttar Gosaipur Ideal High School, Dinajpur*

  GPA: 5.00/5.00
  Passing Year: 2015

Projects and Thesis

Research Projects

- *Fake News Identification Using Artificial Immune Systems, Accepted in IEEE Congress on Evolutionary Computation (CEC), July 1-5, 2023, Chicago, USA*

- *An Insight into Local Sylheti Language to Standard Bangla Language (Term project, JU)*

- *Epileptic seizure classification using statistical sampling and a novel feature selection algorithm (Running)*

Other Project

- *General Aviation (GA) aircraft cost analysis dynamic software with various options (Research project)*

Selected Coursework

Graduate

- Courses: Advanced Machine Learning, Machine Intelligence and Expert System, Natural Language Processing, Network Security, Computer Vision, Medical Imaging, Bioinformatics, E-Commerce and E-Governance

- Thesis: Fake news identification using a multi-objective evolutionary algorithm.

Undergraduate

- Custom bird detection using YOLO model, Special effect of images using image processing algorithms, Messaging App using React & Firebase, Covid-19 real-time status (Web), Building Chatbots by IBM Watson Studio, Augmented Reality (Android Mobile Application), E-commerce Site using Django (Software Engineering), Online E-learning Platform (Web dev.), School Management System (JAVA), Signal Processing with Python (Data Communication), Medical Store (DBMS), Pharmacy Management System (C++), Building a DC power supply (L7812CV voltage regulator), Building first Game in "SCRATCH"

Awards

- **National Science and Technologyv(NST) Fellowship (Physical Science) in M.Sc.**
  2023-2024
  Merit: 24

- **Departmental TA Scholarship, CSE, Jahanagirnagar University**
  2019-2023
  Four Years

- **Departmental Merit Scholarship, CSE, Jahanagirnagar University**
  2018-2022
  Four Years

- **Dutch-Bangla Bank Merit Scholarship for Graduation (Engineering)**
  2018-2022
  Four Years

- **Dutch-Bangla Bank Merit Scholarship for H.S.C.(Science)**
  2015-2017
  Two Years

- **Pay It Forward Bangladesh (Let us Spread Kindness) Scholarship**
  2018-2022
  Four Years

- **Center for Development Action (CDA) Scholarship**
  2021-2022
  One Year

- **Structural Engineering Ltd. (SEL) Bright Scholarship**
  2019-2021
  Two Years

Certifications

- CS50: CS50's Introduction to Computer Science (*From Harvard University, Online*)
- PH125.3x: Data Science: Probability (*From Harvard University, Online*)
- 6.00.1x: Introduction to Computer Science and Programming Using Python (*From MIT, Online*)
- Google IT Automation with Python Professional Certificate (*From Google, Online*)
- Google IT Support Professional Certificate (*From Google, Online*)
- IT Security: Defense against the digital dark arts (*From Google, Online*)
- Automating Real-World Tasks with Python (*From Google, Online*)
- Configuration Management and the Cloud (*From Google, Online*)
- System Administration and IT Infrastructure Services (*From Google, Online*)
- Technical Support Fundamentals (*From Google, Online*)
- The Bits and Bytes of Computer Networking (*From Google, Online*)
- Troubleshooting and Debugging Techniques (*From Google, Online*)
- Using Python to Interact with the Operating System (*From Google, Online*)
- Operating Systems and You: Becoming a Power User (*From Google, Online*)
- Introduction to Git and GitHub (*From Google, Online*)
- The fundamentals of Digital Marketing (*From Google, Online*)

- Microsoft Advertising Certified Professional (*From Microsoft, Online*)
- Introduction to Amazon Elastic Compute Cloud (EC2) (*From Amazon, Online*)
- Machine Learning for All (*From University of London, Online*)
- Python 3 Programming Specialization (*From University of Michigan, Online*)
- Data Collection and Processing with Python (*From University of Michigan, Online*)
- Data Science Foundation's Professional Certification (*From IBM, Online*)
- PY0101EN: Python Basics for Data Science (*From IBM, Online*)
- Programming for Everybody Getting Started with Python (*From University of Michigan, Online*)
- DS0105EN: Data Science Tools (*From IBM, Online*)
- Python Data Structures (*From University of Michigan, Online*)
- DA0101EN: Analyzing Data with Python (*From IBM, Online*)
- DS0101EN: Introduction to Data Science (*From IBM, Online*)
- Elements of AI (*From University of Helsinki, Online*)

Activities & Honors

- Alumni Member, Jahangirnagar University Computer Science and Engineering Alumni (JUCSEALUMNI)
- Member, The Honor Society of JU Computer Club
- Committee Member, Sopnojoyee Foundation